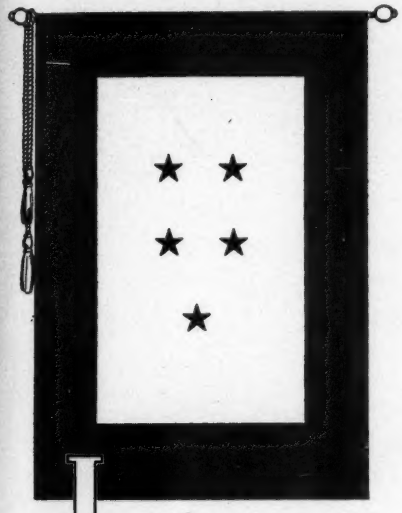
CALIFORNIA
OIL WORLD
and Petroleum Industry

PUBLISHED TWICE A MONTH — ENGINEERING — TECHNOLOGY — LATEST NEWS

FIRST ISSUE
APRIL 1943
VOL. 36 NO. 7
WHOLE NO. 1630

IN THIS ISSUE



In the service of our country

Administrative Highlights 5

"5 Points Area" Huntington Beach 15

Los Angeles Basin Developments 25

Coastal Developments 27

San Joaquin Valley Developments 29

PETROLEUM PUBLISHERS, INC. 939 SO. BROADWAY BLDG.
LOS ANGELES, CALIFORNIA - MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

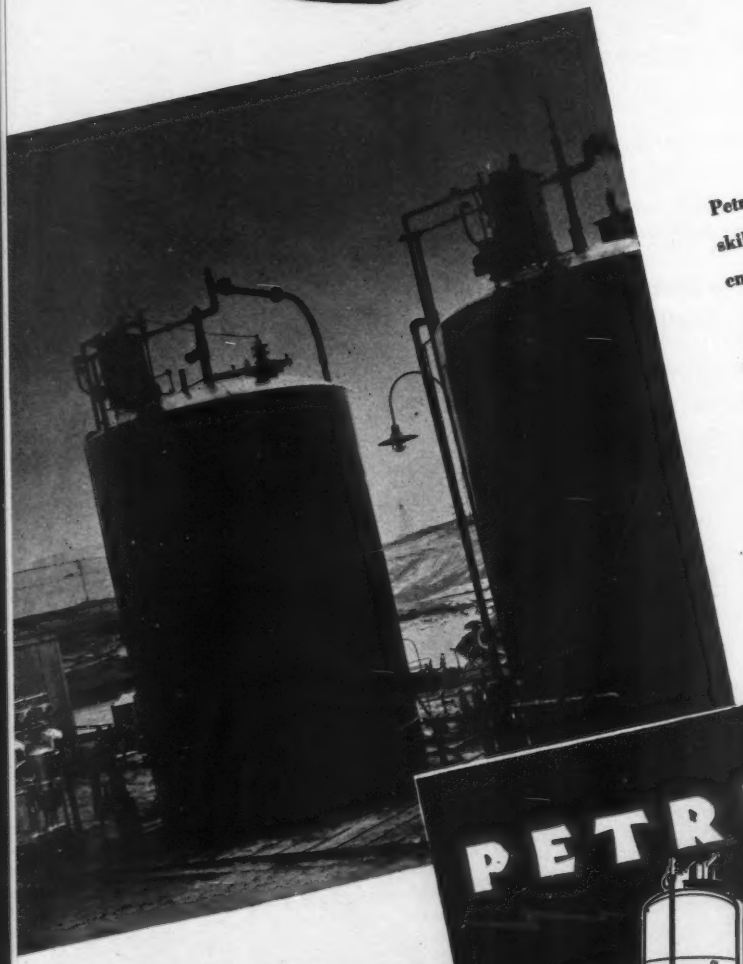
WALTER C. MONROE President and Editor
KINZIE MILLER Vice President

V. W. HEINZERLING, Manager California Oil World News Service and California Oil World Reference Edition

California Oil World and Petroleum Industry is published twice a month at 1009 in the 939 So. Broadway Bldg., Los Angeles, California. Entered as Second-class Matter January 16, 1937, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price $1 per year in U. S. and Possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

April 12th, 1943

Telephone Number TUcker 2571



Petreco Electric Dehydrators, automatic in operation and skillfully incorporated into lease flow systems by Petreco engineers, result in highly desirable time savings.

On the lease of one California operator, the installation of a Petreco unit permitted two men to be diverted to other lease duties. These experienced men were far more productive in their new status, and a labor cost of $330.00 per month was eliminated from the dehydrating cost sheet.

Petreco's automatic operation, vapor-tight flow system and wide adaptability make many lease economies available to operators. Petreco research and engineering provide a valuable consultation service to producers; investigate it now.

PETROLEUM RECTIFYING COMPANY
5121 S. WAYSIDE DRIVE, HOUSTON, TEXAS
648 EDISON BUILDING, TOLEDO, OHIO
530 W. SIXTH STREET, LOS ANGELES, CALIF.
Representatives in all principal fields and refining centers.

PETRECO

DEHYDRATING **DESALTING**

Administrative Highlights •

W.P.B. Issues Amended P-98-c

To promote the free flow of materials within the petroleum industry, both at home and abroad, the War Production Board on March 24th issued an amended Preference Rating Order P-98-c.

The amended Order simplifies and concentrates all controls over materials inventories in the petroleum industry, defines "Surplus Material," provides a method of accounting for transfers of material from domestic operations to foreign operations, and establishes participation on and after May 1, 1943, in the Petroleum Administration for War Materials Redistribution Program No. 2 as a prerequisite to securing any materials for use in the petroleum industry.

(PAW Materials Redistribution Program No. 2 is now being drafted and will be announced in the near future.)

"Surplus Material" is defined as any material which is not required for use by the owner during the succeeding ninety days. The Order prohibits the acquisition by any operator, for use in the United States, its territories or possessions or in the Dominion of Canada, of any materials which would result in his accumulating more than a ninety days' supply.

This limitation, plus the requirements of the PAW Materials Redistribution Program, takes the place of the inventory control requirements previously imposed by Priorities Regulations Nos. 1 and 13, and by Controlled Materials Plan Regulations Nos. 2, 5, and 6. Inventory control requirements in Preference Rating Order P-98-b will be revised in accordance with the provisions of the amended Order P-98-c.

The Order establishes the filing of Form PD-470 with PAW as a pre-requisite to the acquisition by operators from other operators of materials from within the United States for use outside the United States, its territories or possessions. This will permit the keeping of an accurate record of the materials transferred from the operating stocks of the United States to foreign operations. Thus, the books of Lend-Lease and Board of Economic Warfare will reflect all material moving to foreign operations.

Subject to the ninety-day supply limitation, sales or transfers of material from one operator to another may be made freely up to May 1, 1943, provided the material is to be used in the United States, its territories or possessions.

On and after May 1, 1943, no operator, who is required to obtain a Serial Number under PAW Materials Redistribution Program No. 2, may obtain material from another operator or apply priorities assistance to obtain material, unless such Serial Number is in effect. The Serial Number must be clearly identified upon any document used in completing the transaction.

TITLE 32—NATIONAL DEFENSE
CHAPTER XI—OFFICE OF PRICE ADMINISTRATION
PART 1340—FUEL
REVISED PRICE SCHEDULE NO. 88—AMENDMENT 87
PETROLEUM AND PETROLEUM PRODUCTS

A statement of the considerations involved in the issuance of this amendment, issued simultaneously herewith, has been filed with the Division of the Federal Register.

Revised Price Schedule No. 88 is amended in the following respects:

1. Section 1340.159 C-1-XIV is added to read as follows:

XIV California (a) The maximum prices at the receiving tank for crude petroleum of the gravities specified in the table below and produced in the fields designated therein shall be as follows: (in substitution for the OPA figure Calif. Oil World on the opposite page gives posted prices of the Standard Oil Co. of Calif.)

2. Section 1340.159 C-6-IV is amended to read as follows:

IV California. The maximum prices, exclusive of taxes, F. O. B. refineries and tanker terminals for Pacific standard No. 300 fuel oil having a viscosity of not less than 25 and not more than 60 seconds Saybolt furol at 122 degrees F. and of Pacific standard No. 400 fuel oil having a viscosity of not less than 60 seconds Saybolt furol at 122 degrees F. When sold to consumers or refineries in bulk lots for delivery into barges, tank steamers, tank car, motor transport and pipeline shall be as follows:

Area	P.S. No. 300 Fuel Oil	P.S. No. 400 Fuel Oil
Fresno County	$1.20	$1.10
Kings County	1.20	1.10
San Luis Obispo County (x)	1.20	1.10
Tulare County	1.20	1.10
Santa Barbara County	1.20	1.10
Kern County	1.20	1.10
Ventura Cunty	1.20	1.00
Los Angeles County ..	1.20	1.10
Orange County	1.20	1.10
Riverside County	1.20	1.10
San Bernardino County	1.20	1.10
San Francisco Bay area	1.25	1.15

(x) Maximum F. O. B. refinery and tanker terminal prices at Port San Luis shall be the maximum prices established hereunder at the San Francisco Bay area.

3. Section 1340.159 B-13 is added to read as follows:

13. Navy Grade Special—California, Washington and Oregon. A sellers

THE FOLLOWING ARE THE PRICES OFFERED BY THE

STANDARD OIL COMPANY OF CALIFORNIA

FOR ITS CURRENT PURCHASES OF CRUDE OIL AT THE WELL
(UNLESS OTHERWISE SPECIFIED)

Effective at 7:00 A.M. April 1, 1943

SAN FRANCISCO, CALIFORNIA MARCH 31, 1943

PRICE PER BARREL IN FIELDS INDICATED
(ALL GRAVITIES ABOVE THOSE QUOTED TAKE HIGHEST PRICE OFFERED IN THAT FIELD)

GRAVITY	SIGNAL HILL (LONG BEACH)	WILMINGTON	EL SEGUNDO	SEAL BEACH	HUNTINGTON BEACH	INGLEWOOD	OLINDA BREA CANON	ATHENS-MOSECANAS	TORRANCE	RICHFIELD	WHITTIER EAST COYOTE (LA HABRA)	MONTEBELLO	WEST COYOTE HILLS	SANTA FE SPRINGS	KERNHALL, KERN RIVER, KERN FRONT, MCKITTRICK, ROUND MOUNTAIN	GREELEY, CANAL, MASCO	COLES LEVEE	MOUNTAIN VIEW	ELK HILLS, BUENA VISTA HILLS, MIDWAY-SUNSET LANDVIEW AREA	LOST HILLS	COALINGA	WHEELER RIDGE	KETTLEMAN HILLS	ELWOOD TERRACE	GRAVITY
14-14.9		$ .93			$ .96		$ .96		$ .96	$ .95	$ .95	$ .97			$ .98				$ .98	$ .98	$ .98				14-14.9
15-15.9		.96			1.00	$1.01	.97		.97	.96	.97	.97							.98	.98	.98				15-15.9
16-16.9		.96	$1.01		1.00	1.01	.97		.97	.96	.97	.97							.98	.98	.98				16-16.9
17-17.9		.96	1.01		1.00	1.01	.97		.97	.96	.97	.97							.98	.98	.98	$.76			17-17.9
18-18.9	$ .93	.96	1.01		1.00	1.01	.97		.97	.96	.97	.97							.98	.98	.98	.80			18-18.9
19-19.9	.93	.96	1.01		1.00	1.01	.97		.97	.96	.97	.97	.97				$ .98		.98	.98	.98	.83			19-19.9
20-20.9	.93	.96	1.01		1.00	1.01	.97		.97	.96	.97	.97	.98				.98		.98	.98	.98				20-20.9
21-21.9	.93	.96	1.01		1.00	1.01	.97		.97	.96	.97	.97	1.00				.98		.98	1.01	1.04				21-21.9
22-22.9	.96	.98	1.02	$.86	1.00	1.01	.97		.97	.96	.97	.97	1.01	$1.04			1.01		1.01	1.15	1.07				22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98		.97	.98	1.00	.97	1.02	1.08			1.04		1.04	1.19	1.10	1.00			23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01		1.01	1.02	1.03	.97	1.03	1.12			.98		1.07	1.24	1.13	1.02			24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.06	1.07	1.04		1.05	1.06	1.07	1.01	1.06	1.15			.98		1.10	1.28	1.16	1.04			25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08		1.09	1.10	1.11	1.05	1.10	$1.04		$1.01	1.01		1.11		1.04	1.06			26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11		1.13		1.15	1.10	1.13	1.08		1.02	1.04		1.15	1.19	1.07	1.08			27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14		1.17			1.08	1.13	1.08		1.04	1.04		1.19	1.19	1.10	1.00			28-28.9
29-29.9	1.20	1.21	1.07	.97	1.05	1.20	1.04	$1.17	1.01	1.02	1.12	1.17	1.12				.98		1.07	1.24	1.13	1.02			29-29.9
30-30.9	1.23	1.24	1.10	1.01	1.06	1.22	1.04	1.21	1.05	1.06	1.15	1.21	1.15			$1.01	$1.09	1.10	1.10	1.28	1.16	1.04		FOB	30-30.9
31-31.9			1.12	1.06	1.11	1.10	1.08	1.25	1.09	1.10	1.19	1.24	1.19			1.04	1.12	1.14				1.06		SHIP	31-31.9
32-32.9			1.15	1.10	1.14	1.14	1.11	1.29	1.13		1.25	1.26	1.23			1.07	1.14	1.17				1.09			32-32.9
33-33.9			1.18	1.15	1.17	1.17	1.14	1.32	1.17		1.27		1.26			1.10	1.17					1.11		$1.22	33-33.9
34-34.9								1.36			1.31		1.30			1.13	1.20					1.13		1.25	34-34.9
35-35.9											1.35					1.16	1.22						$1.23	1.28	35-35.9
36-36.9											1.39					1.19	1.25						1.26		36-36.9
37-37.9											1.43					1.22							1.29		37-37.9
38-38.9											1.47					1.25									38-38.9
39-39.9															1.51										39-39.9
40-40.9															1.53										40-40.9

maximum price for Navy grad special fuel oil in the states California, Washington and Oreg at particular shipping or deliver point shall be the sum of his max mum price as determined by oth provisions of this price schedu and $0.25 per barrel.

This amendment shall become e fective March 26, 1943.

Pub. Laws 421 and 729, 77 Cong., E. O. 9250, 7 F. R. 787 issued this 26th day of March, 194 Prentiss M. Brown, Administrator.

P. A. W. Speeds Up Procedure

Speeding up of administrati procedure in handling exception appeals or denials under War Pro duction Board Conservation Orde M-68 and M-68-c, and Limitatio Order L-56 and L-70, all of whic affect the Petroleum industry, wa announced by Petroleum Admini trator for War Harold L. Ickes.

All documents or papers whic are required to dispose of appeal or exceptions filed under the term of the above Orders will now b issued over the signature of Deput Petroleum Administrator for Wa Ralph K. Davies. This applies t pending cases as well as new cases

This speeding up of administra tive procedure was made possible b agreements made with the War Pro duction Board in accordance with the provisions of the Executive Or der establishing the Petroleum Ad ministration for War.

P. A. W. Announces Appointment of Labor Counsellor

Appointment of Dr. Frederick H Harbison of the University of Chi cago as labor counsellor to the Pe troleum Administration for Wa was announced on March 22nd b Petroleum Administrator for Wa Harold L. Ickes.

Dr. Harbison will advise and rep resent the Petroleum Administra tion on all labor relations and man power matters affecting the oil in dustry.

Concerning the appointment, Ad ministrator Ickes said:

"It will be Dr. Harbison's responsibility to recommend appropriate policies and programs for determining and meeting the manpower requirements, and to integrate them with our wartime programs for the production, transportation, refining and distribution of oil."

As labor counsellor, it will be Dr. Harbison's function to advise and assist the functional officers of PAW in forestalling or remedying labor or manpower situations which impede or threaten to interfere with petroleum production. In so doing, he will be responsible for developing and maintaining effective relations with labor organizations in the industry, and for taking appropriate action with management, labor groups, and other government agencies.

He will develop, in cooperation with the operating staff of PAW, a two-way channel of communication between PAW and management on labor and manpower matters. In this function, he will receive from and make recommendations to the Committee on Manpower of the Petroleum Industry War Council, and other industry committees which may be concerned with the effective mobilization and utilization of labor and manpower in the oil industry.

He will maintain contact with labor organizations, advising them of the various aspects of the PAW program as affecting labor; and will arrange to present proposals and programs of labor groups to the appropriate PAW operating officials. In particular, Administrator Ickes said, he will seek the assistance and cooperation of labor groups in the development of labor and manpower programs affecting the petroleum industry.

Dr. Harbison will act as official liaison representative for PAW with the War Manpower Commission, the National War Labor Board, the National Labor Relations Board, and the Department of Labor; and will maintain such liaison as necessary with the labor production division of the War Production Board, and the Labor office of the Office of Price Administration, and the various labor and manpower branches of the War Department, Navy Department, Maritime Commission, Department of Agriculture, Board of Economic Warfare, Office of Defense Transportation, the Rubber Director's Office and others.

Dr. Harbison is a graduate of Princeton University, from which he received his A.B. in 1934 and his Ph.D. in 1940. While he was working toward his graduate degrees, he was on the staff of the university, associated with J. Douglas Brown of the Industrial Relations Section from 1938 to 1940, inclusive. He went to the Economics Department of the University of Chicago in 1941, and is now on leave to serve the Government.

He was labor consultant to the iron and steel branch of the former Office of Production Management from August, 1941, to February, 1942; at which time he became chief manpower consultant for the automotive branch of the War Production Board in Detroit. In June, 1942, he went to the War Department as chief of the labor supply section, civilian personnel division, headquarters, Service of Supply, acting in a liaison capacity with the War Manpower Commission. He remained in this post until his enlistment by the Petroleum Administration for War.

As the result of his experience, Dr. Harbison has acquired extensive acquaintance with officials in Government agencies concerned with labor and manpower; and with management and labor groups in a variety of war industries.

Over 2,000 quarts of condensed milk a month are now being bootlegged into Great Britain and used for British children. Canadian shell-makers are putting two large cans of evaporated fluid in empty shell cases being sent to England for loading. Each box of shell cases is marked with an "M".

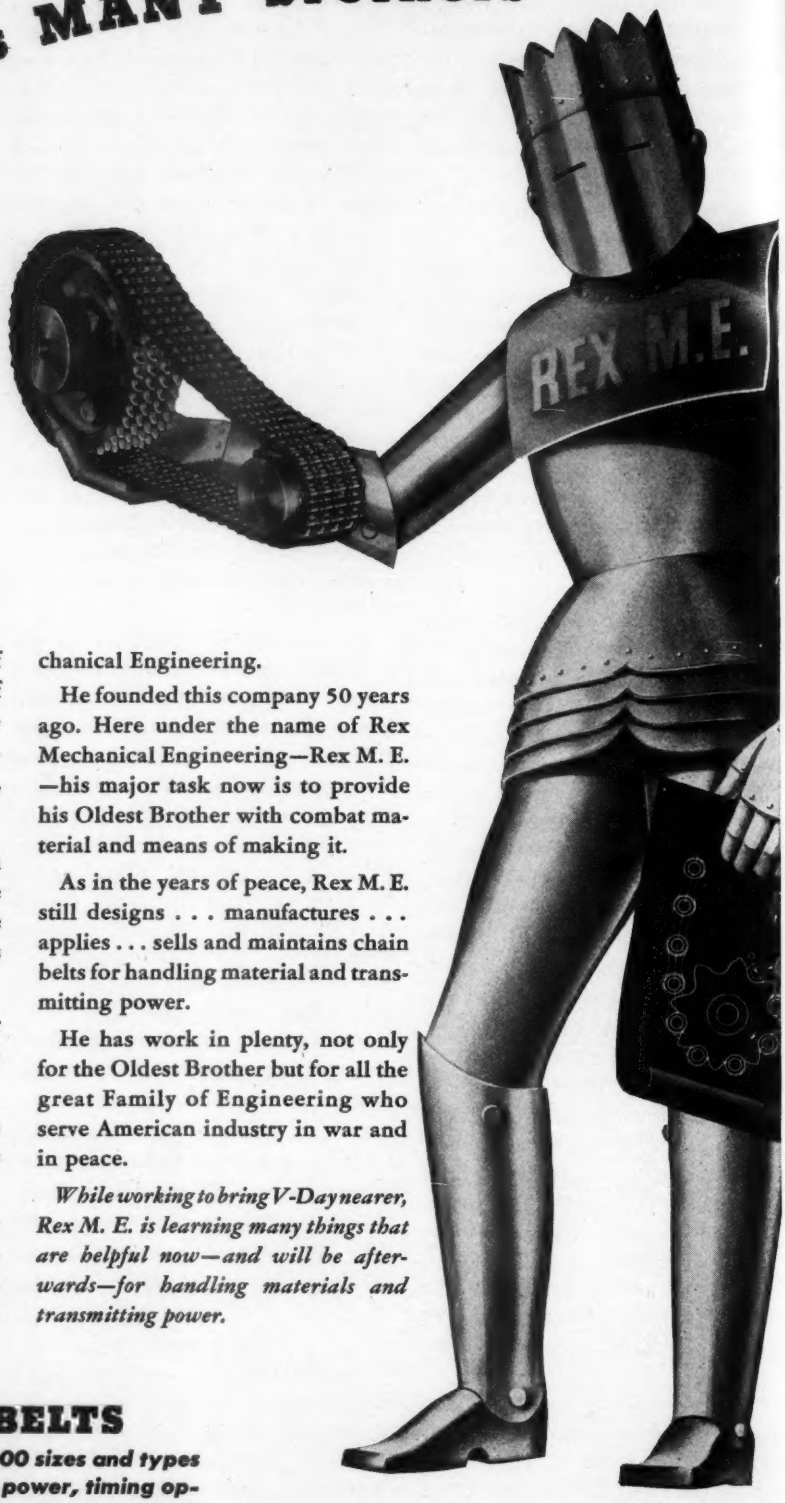
M-68 Modified With Issuance of PAO 11

Controls over petroleum production were modified on March 30 when the Petroleum Administration for War issued PAO 11, replacing M-68. Major changes in new order, according to PAW, are: Pumping equipment may not be installed before a well ceases to flow naturally unless it is necessary for well to meet allowable. Wells which conform to 40-acre spacing may be plugged back or deepened even if they are not the only wells on the units and are not the prescribed distance from offsets. Wells may be connected with pipelines by gathering systems provided material does not cost more than $2500 and system does not duplicate existing facilities. In sectionalized areas, drilling unit must consist of a quarter-quarter section of at least 35 acres. Other modifications included: Maintenance and repair was defined to exclude any restrictions arising from accounting practices, and to include capital additions costing not more than $500. Definition of condensate field was replaced by specific list of 115 fields where an exception is required before any drilling can be done. An exploratory well does not include any well drilled within a proven area. All gas wells require exceptions except those in Appalachian area and in specified portions of Oklahoma, Kansas and Missouri which do not require special authorization if they meet conditions prescribed in Supplementary Order No. 1.

California production is under active consideration but until a new order is issued incorporating a wider range of production operations, Supplementary Order M-8-3, affecting California heavy crude, was reissued as Supplementary Order No. 4 to PAO 11.

82,000 women are employed on subways and street cars in London. However, this is still but a small percentage of the 640,000 people thus employed.

He helps his MANY brothers



He belongs to a large family of wonder workers. They are men of faith who perceive not only the difficulties, but ways to surmount them.

The Oldest Brother of the family is more than 5000 years old.

His business is to destroy—from as far off as he can, as swiftly as he can, while keeping his own as safe as he can. His inventions are marvels of speed and might.

He is now more active than ever before. His name is Military Engineering.

A Younger Brother works on the machines of destruction and in the factories that make them.

He is a youngster, something over a century old. He built the steam engine, machine tools, the internal combustion engine. His name is Mechanical Engineering.

He founded this company 50 years ago. Here under the name of Rex Mechanical Engineering—Rex M. E. —his major task now is to provide his Oldest Brother with combat material and means of making it.

As in the years of peace, Rex M. E. still designs . . . manufactures . . . applies . . . sells and maintains chain belts for handling material and transmitting power.

He has work in plenty, not only for the Oldest Brother but for all the great Family of Engineering who serve American industry in war and in peace.

While working to bring V-Day nearer, Rex M. E. is learning many things that are helpful now—and will be afterwards—for handling materials and transmitting power.

REX **CHAIN BELTS**

In more than 2000 sizes and types for transmitting power, timing operations, and handling materials

CHAIN BELT COMPANY OF MILWAUKEE

Keen attention was paid to the papers delivered at the symposium, conducted by Ernie Pyles at the Pacific Coast District, Division of Production, American Petroleum Institute meeting held on March 23. California Oil World presents in this issue the complete papers as given by the representatives of the various committees.

Statistical Committee

By H. A. Lapham

The Statistical Committee commenced to function early in 1942. It was formed as a sub-committee of the General Committee. The appointed membership totals ten. These members are representatives of both large and small oil companies, the Southern California Gas Co., and the Conservation Committee. At most meetings there are also present representatives of the U. S. Bureau of Mines and of the local office of the Petroleum Administration for War.

Instructions from the General Committee, among other things, are to determine minimum economic levels of district inventories of petroleum and petroleum products, to make studies of special situations as they develop, and to make recommendations as to the quantities of crude oil, both light and heavy, and natural gasoline, that should be produced in District Five.

Although this latter responsibility is probably the most important function of the committee, the others tie in with this responsibility in order to prepare the recommendation as to the quantities of crude oil to be produced.

As a basis for the recommendation it is necessary to have a reasonable approximation of the demand for crude oil and its products. The committee prepares estimates of domestic consumption of products. Consideration is given to the effects of expanding industrial uses for certain products resulting from the war effort. For example increased fuel oil uses of the electrical utility companies for their steam generating plants, the requirements of the Kaiser Steel Mill, and the butadiene projects. On the other side decreasing uses are recognized due to rationing, both as applied to the district as a whole as well as local restrictions as in the Northwest. Information has been obtained from the Office of Price Administration on their ideas of the probable effect of some of the restrictions.

We are advised by Washington as to Government requirements for products for all of its branches, as the armed forces, War Shipping Administration and Lend Lease. Most of the companies in this district supply forecasts of their off-shore shipments. Collectively, the domestic demand, Government demand and off-shore demand constitute the total demand for petroleum and its products. In the aggregate these mean crude oil and natural gasoline.

Forecasts are received from most of the refining companies in this district of their expected refining programs. These include runs to straight run facilities and to cracking plants and the expected yields of products. Correlations of the estimates of product demand and the expected product yields indicate the quantities of light and heavy crude oils and natural gasoline that will be necessary to supply that demand.

These forecasts cover a quarterly period in advance and sometimes a longer period. These are reviewed monthly to see if any change should be made.

Summaries of these studies of crude oil and natural gasoline requirements are transmitted to the General Committee, to the Refining Committee and to the Production Committee. These are in the form of recommendations for further consideration by those committees.

The Refinery Committee

By C. S. Wimpress

Mr. Lapham has told you how the Statistical Committee prepares its monthly and quarterly forecasts of the quantity of crude that would have to be produced in order that the various requirements might be met, and it might be thought that the Refining Committee's share in the crude allocation procedure was simply to furnish the Statistical Committee with necessary information regarding refinery activities and then approve that Committee's recommendation as to the total quantity of crude to be produced.

This would be the case if all crudes in California would yield the desired products in the proper proportions, but California crudes vary in character so widely that even the broadest classification indicates at least eight different types and in many refinery operations it is not possible to substitute crude of one type for another type.

There are certain crudes which are particularly suitable for the manufacture of high-grade lubricants. Other crudes are necessary for the production of the low pour-point fuel oil required by the Navy. On the other hand, there are certain crudes which have characteristics which place a definite limit on the quantity which can be used currently by the refineries.

The producing wells in the State have been divided by the Conservation Committee into about 250 separate fields and pools. One of the first things the Refining Committee did was to make a survey of the crudes produced in every pool in California to determine the characteristics of each crude and its suitability for various purposes. The Committee asked the different oil

companies to furnish tests of all the crudes in which they were interested, and in this way, the Committee was able to obtain at least one test, and in most cases, several tests on typical crude from nearly every pool, although in a few cases it was necessary to obtain samples and have special tests run.

A subcommittee of the Refining Committee then spent about a week in correlating the various tests and preparing a report which showed the characteristics of the typical crude from every pool and copies of this report were sent to the Conservation Committee and the Production Committee.

In the case of those crudes which have characteristics limiting the quantity which can be currently utilized, the Refining Committee obtains each month from the refineries using these crudes an estimate of the quantity which they will be able to utilize during the following month, and from these figures determines the total quantity of this type of crude that can be utilized. This information is then passed on to the Production Committee to indicate the top limit on the allotment for the field in which such crude is produced.

The Refining Committee, therefore, makes the necessary recommendations to the Production Committee so that no field or pool shall be given an allotment in excess of the quantity of that particular crude that can be utilized and that crudes of different types shall be produced in proportions necessary to yield the desired products in the proper quantities.

Up to the present time we have not encountered any great difficulties in moving crude from the fields to the refineries, but if such difficulties should arise, the Refining Committee will then work with the Transportation Committee in determining how the available facilities can best be used to give each refinery an adequate supply of crude oil of the proper type.

The Natural Gas and Natural Gasoline Committee

By Wm. Moeller, Jr.

Mr. Chairman, Members and Friends of A.P.I., Pacific Coast District—

Briefly stated, the primary job of the Natural Gas and Natural Gasoline Committee, District No. 5, is to prevent a shortage of the supply of natural gas and natural gasoline.

For this purpose comprehensive statistics are necessary, and therefore, we must know all about the quantity of available production and the demand therefor, the location of the source of production, the location and capacity of plants and pipelines to handle both production and products.

The Committee's organization includes both a natural gas and a natural gasoline statistical subcommittee whose particular function is to collect and have readily available all such information.

The Natural Gasoline Statistical Subcommittee, under chairmanship of "Red" Taylor, Signal Oil and Gas Company, prepares a monthly survey of natural gasoline plant operations, showing the following information for each field producing natural gasoline—

(1) Crude oil production (bbl./day),
(2) Net formation gas treated (Mcf/day),
(3) Gas to oil ratio (cu. ft. per bbl.),
(4) Total liquid extraction (in gals. per Mcf. and bbl./day),
(5) Iso-butane potential and actual production,
(6) Iso-butane delivered to manufacturers of 100 octane gasoline.

A record of past performance enables this committee to prepare a reasonably good forecast of future natural gasoline production, if given the average daily crude oil production for each field. A forecast can also be prepared indicating a product breakdown such as normal butane, iso-butane, propane, etc.

The Natural Gas Statistical Subcommittee under the chairmanship of R. M. Bauer, Southern California Gas Company, accumulates information on the current use of natural gas by gas utilities and oil companies by fields and districts. The regular monthly report of natural gas production and disposition of the California Natural Gasoline Association is the source of considerable of this information.

Here are some natural gas statistics—

Total customers served about 2 million, population, roughly, 7 million.

Average daily natural gas usage—1942—about 1100 million cubic feet,

Which is divided, roughly:

1/3 for domestic business,
1/3 for industrial business,
1/3 for oil and gasoline company use.

The average daily natural gas production for 1942 was, roughly, 1150 million cubic feet—of which about 860 million was casinghead gas, and 290 million was dry gas. Only 1.3% of all natural gas production was unconserved in 1942.

Coming back to the Natural Gas and Natural Gasoline Committee participation in the oil production procedure, we are requested each month to prepare and furnish an estimate of the casing-head gas needed for the next month sufficient to meet the essential civilian and war industry requirements. This estimate is prepared after due consideration of the available dry gas, natural gas pipeline and plant capacity limitations, and expected gas demands.

Should the preliminary production schedule fail to produce sufficient natural gas to meet all requirements, an opportunity is given for further consideration and discussion of the specific problems to the end that the final schedule will provide sufficient natural gas to meet current needs.

The Transportation Committee

By A. C. Saul

Mr. Chairman, Mr. Gallagher, members and guests of the American Petroleum Institute, I am sure it is with a good deal of regret that Mr. Charles S. Jones, Chairman of the Transportation Committee for this district, is not able to be present tonight. In his stead, I shall try to give you a brief story of what the industry has done toward more efficient use of transportation and the elimination of transportation bottlenecks within the district.

With no appreciable surplus of tank trucks or tank cars, the attention of the industry has naturally been focused upon the expansion of pipe line facilities as a means of economizing on the use of tank ships which are so urgently needed elsewhere. The most significant of these moves is, I believe, the conversion of the Stanpac line from a natural gas carrier to an oil line. Stanpac is approximately 177 miles long, mostly 26 inches, in part 22 inches. It was originally put down as a joint venture by Standard Oil Company and the Pacific Gas and Electric Company to bring natural gas into the San Francisco Bay area from the Kettleman Hills field. Early last year the Standard Oil Company of California took over the whole line on a rental basis and oil commenced moving last June. Today working at full capacity Stanpac is delivering about 125,000 barrels daily of light San Joaquin Valley crude into the various refineries situated on San Francisco Bay. Hand in hand with this the industry with the cooperation of the Transportaion Committee worked out and put into effect a plan for insuring maximum crude oil deliveries in the Bay area by diverting the heavy grades of crude into the existing northbound pipe line systems which were better equipped to handle them.

The full significance of this move can best be realized when one is reminded that crude oil production in the San Joaquin Valley has increased by 91,000 barrels daily during the last 18 months, yet during the same period loadings of crude oil at coastal points for the San Francisco Bay refineries have been reduced by 50,000 barrels daily. The whole project has eliminated the need for six tank ships of ordinary size and speed.

Tide Water Associated's share of this program has been effected by the building of 45 miles of 8 inch loop from Coalinga northward to the junction between their east side and west side lines. With this loop, Tide Water has been able to double its capacity for delivering heavy San Joaquin Valley crude into the Bay area.

Shell Oil Company's contribution to the saving of tanker tonnage has been the laying of a 10¾ inch oil line from Ventura 83 miles south to the Los Angeles refinery area. The line was put in operation during October, 1941, and then had a capacity of 27,000 barrels daily. This was expanded in February, 1942, to 40 000 barrels daily. Presently the capacity is again being extended to 47,000 barrels daily. When this last extension is finished it will completely eliminate the movement of crude oil by tank ship from Ventura and some of the adjacent fields. The total saving of the whole project is represented by approximately 2½ ordinary tank ships.

Incidentally, I might say at this point that a number of product exchanges have been worked out between refineries which while they are of no particular interest to you crude oil producers do nevertheless save a considerable amount of tonnage and thus make it available for the transport of additional crude oil.

As a matter of routine the Transportation Committee undertakes to advise the Production Committee each month of the transportation bottlenecks which should be taken into account when allowable crude production is distributed. I am pleased to report that as a result of the energetic action the industry has taken, these bottlenecks have been of a very minor nature and quite temporary. In fact during the last few months there have been virtually no limitations placed upon any field because of transportation, and I am sure this fact must be a source of considerable comfort to the crude oil producers, not only the larger companies but also those independent producers who are so largely dependent upon pipe lines for their principal outlet.

In conclusion, I wish to say on behalf of the Transportation Committee for this district that we welcome Mr. Herbert Gallagher as director in charge of P.A.W. for District Five. We have great confidence in his ability to cooperate with the industry and we offer him the fullest measure of our cooperation.

The Engineering Subcommittee

By E. C. Babson

The Engineering Subcommittee of the Production Committee for District No. 5 is composed of seven members from the industry serving part time, plus three ex-officio members: E. G. Trostel of the Los Angeles Office of the P.A.W.; W. R. Wardner, Manager of the Conservation Committee staff; and Harold J. Clark, Acting Chief Engineer of the Engineering Subcommittee. Since A. H. Bell, the chairman of the committee could not be present tonight the task of describing the activities of the committee has been assigned to me.

The duties of the Engineering Subcommittee are: (1) to classify the oil producing pools of District No. 5, (2) to determine maximum efficient rates for these pools, (3) to determine minimum efficient rates where indicated, and (4) to work on special problems assigned by the Production Committee.

The oil fields of District No. 5 are first subdivided into such pools as may be indicated by available data on structure and production behavior. These pools are then grouped into two main classes: I and II. Class I pools are those in which it is believed that capacity production will result in loss of practicable ultimate recovery, while Class II pools are those which can be produced at capacity without loss of practicable ultimate recovery. These two classes are further subdivided into subclasses "a", "b", and "c" which are more or less related to the stage of depletion and average capacity of the wells, the pools in subclass "a" being relatively less depleted than those in subclass "c" within either of the main classes.

The principal function of the Engineering Subcommittee is to determine maximum efficient rates for all oil-producing pools in District No. 5. The maximum efficient rate of a pool is considered to be the maximum rate of production that can be maintained for six months without loss of practicable ultimate recovery. The determination of this rate involves a thorough analysis of reservoir conditions and production behavior, and the reliability of the result is directly related to the quantity and quality of engineering information available to the committee.

Minimum efficient rates are established for pools in which it can be shown that loss of ultimate recovery will result from curtailment below some limiting rate of production. Minimum efficient rates have not been established for many pools because data to support such action have only been submitted for a few pools.

Engineering problems confronting the Production Committee which do not fall within the province of some other regularly established committee are sometimes referred to the Engineering Subcommittee for study.

The next matter to be considered is the procedure followed by the Engineering Subcommittee in performing its task. Engineering data on a pool should be presented to Mr. Clark by the Field Engineering Committee for the field in which the pool in question is located. The accumulation and presentation of these data may be the result of (1) routine activity of the field engineering committee, (2) a request by some operator or operators for a change in maximum efficient rate or pool classification, or (3) a request from Mr. Clark for information on the pool. In any case, the data are analyzed under the direction of Mr. Clark, and his findings are presented to the Engineering Subcommittee, upon whom the final decision rests.

In closing, I would like to emphasize that, while the Engineering Subcommittee is interested in the opinions of people acquainted with the pools of District No. 5, the present maximum efficient rates and pool classifications are the result of analyses of engineering information and the committee is unlikely to take action upon a request for a change unless it is accompanied by sufficient engineering data to justify the change.

California Pool Quotas

By Wm. R. Wardner, Jr.

I believe the operating men in the oil industry are more interested in the broad objective of the present war program and in the results which have been attained than they are in the mechanics of allocating crude production. We all know that the job before California petroleum industry is: (1) To supply petroleum in quantities sufficient to meet the war requirements for the armed forces and essential industries, at the time they are needed, and (2) to provide for the essential civilian economy.

In the production branch of the industry this objective can be served best by producing our present developed fields with a maximum utilization of the natural forces existing and acting on the reservoirs and at rates sufficient to fill the war requirements. It seems desirable to produce our flush pools at conservative rates within the limits of good oil field practice, so long as we may do so and continue to supply the essential demand. The next, but not less important way to meet our objective, is to develop new sources of supply.

I believe the industry is united in the opinion that conservation of our petroleum resources and elimination of any wasteful practices are a paramount objective. However, the actual benefits gained from our efforts to increase ultimate recovery of crude oil from present sources are not exactly determinable. Estimates as to proper rates of production are frequently based upon fragmentary evidence or predicated upon limited historical data. In many instances the benefits derived from present restrictions may not be known until the fields have become substantially depleted. On the other hand the discovery of a new pool or development of undrilled areas of an old pool is a definite and positive addition to our daily rate of availability and will actually increase the total crude to be produced in this State, providing proper exploitation is followed.

The results of our present production program for the past year may be summed up briefly by giving a few significant figures.

(1) The number of new wells drilled and completed as producers

in California during the year 1942 was 566 or 60% of 1941. The rate of drilling has since been increased so that now new well completions are nearly double the 1942 average.

(2) During the year 1942 there were 1326 wells which had been shut in for one year or more returned to production. The daily rate of production from these wells for December, 1942, amounted to 29,327 B/D.

(3) From the beginning to the end of 1942 there was a total increase of 140,000 B/D in production. In December the State crude output reached a peak of 771,000 B/D. This was the highest production for any month since October, 1929, and I might say that during the first three months of 1943 production has been sustained at substantially this same level. If production should be continued at the December rate throughout 1943, our total developed crude reserves in California will be further depleted by approximately 9%.

During the past year a large number of fields and pools have been removed from curtailment, specifically 162 pools have been so exempt. As of January, 1943, there were 15,763 oil wells producing without any restriction. In addition there were 2,293 wells in 46 pools which are allocated 100% of the Maximum Efficient Rate. Only in the remaining 41 pools was production restricted to less than the Maximum Efficient Rate. The latter group of pools includes only 1,341 wells or 7% of the total wells in California.

Using the crude quota established for April, the additional crude available for production, within the Maximum Efficient Rate as set, is a matter of less than 10,000 B/D from present wells. With production so nearly approaching the Maximum Efficient Rate, which has been established as the production ceiling—at least for the present, it would seem that the determination of pool quotas would be a relatvely simple job. The method used, however, is complicated somewhat by the procedure of giving higher quotas to the pools producing crude with a relatively high fuel content. The purpose of this plan is to increase our fuel oil supply. It was developed early in 1942 under relatively severe curtailment. At that time large quantities of fuel oil were being drawn out of storage and the main effort was to make an allocation which would provide this product in increasing volume within the limited quota then allowed. The total restriction of the State crude output at that time amounted to approximately 130,000 B/D. With the increases which have since been made in the quota the Production Committee has felt that a continuity of method should be maintained, and has refrained from making any drastic changes in method which might result in severe shifts in the allocation as between pools. It has been considered desirable to preserve the established method of interpool allocation so that in the event more severe curtailment is later necessary, progressive cuts could be made by the same procedure that the increases have been given in the past.

In brief explanation of the determination of the pool quotas I might say that the Maximum Efficient Rates for the restricted pools are the basis from which the pool quotas are calculated. To determine the amount of the State quota assignable to the restricted pools as a group, it is first necessary to establish the volume of crude to be produced from the unrestricted pools and the allotment which will accrue to new wells to be completed during the ensuing month. After subtracting these reservations from the State total quota, the remainder is the quota available for distribution to the restricted pools.

Special consideration is given to some pools for several reasons (1) because of the quality of the crude produced. In this category it is well to point out that those pools producing crude with a fuel oil content greater than 46% are allocated 100% of their Maximum Efficient Rate, (2) special consideration is given because of the state of reservoir depletion, and (3) because of individual reservoir conditions or existing producing limitations. Such pools are given a quota exclusive of any formula, by individual action of the Production Committee. A uniform treatment is given in so far as possible, and the present quotas assigned in these special cases are less than would otherwise be received, under the regular formula. To illustrate this type of pool quota restriction I will cite the South End of Kettleman Hills Temblor Pool. The normal quota which would be earned from the regular formula is 31,560 B/D. This amount would accrue to the pool as determined from its Maximum Efficient Rate of 37,800 B/D. Because of certain delays which have held up installation of additional compressors needed to handle the extra gas coming from a higher production, the quota is reduced to 25,000 B/D. This is the limit at which the pool can be produced under present conditions without wasting gas.

For descriptive purposes these three types of special pool quota assignments have been designated as "Predetermined Quotas."

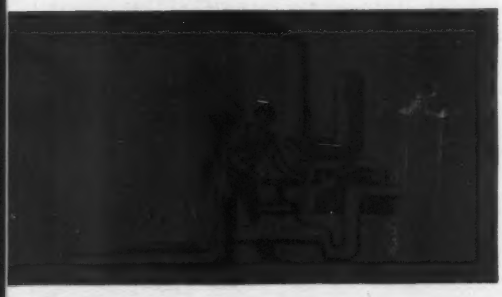
After providing for these predetermined quotas, the unused portion of the State quota is then distributed to the remaining restricted pools. Their quota is derived from the pool Maximum Efficient Rate by applying a graduated curtailment method. In this the average per well Maximum Efficient Rate of the pool is reduced by a sliding scale percentage. This reduction is made uniformly by applying a power function curve to the average per well Maximum Efficient Rate for the pool. The allocation determined from this procedure is termed the "primary quota." This "primary quota" is subject to further re-adjustment,

either upward or downward. The adjustment made at this point in the pool quota determination is a further consideration to the fuel oil content of the crude produced. Its principal purpose is to provide a gradual change in quota between those pools with a fuel yield more than 46% and those pools with a fuel yield less than 46%. A percentage increase or decrease of the pool "primary quota" is made so that the sum of all the pool increases equals the sum of all the pool decreases. Those pools with a fuel yield greater than 33% are given a bonus and those with a fuel yield less than 33% receive a penalty. The final pool quota is equal to the "primary quota" plus or minus the adjustment for fuel content.

The quota established in the manner outlined is then checked against the maximum outlet limitations, both for crude and natural gas, and if necessary reduced to these limits. For any reduction made a corresponding increase is redistributed to the other restricted pools on a straight percentage of the primary quota.

That is a brief explanation of the interpool method of allocating the State quota. If any of you are interested in further details, I shall be glad to furnish you copies of the printed reports and the basis for them. The complete calculations and derivation of pool quotas are made out each month and copies are available. The Conservation Committee office personnel are eager to explain any procedure not understood, and I take this opportunity to invite any one interested to pay us a visit.

In conclusion I might say that in the event the future demand for crude increases to as much or more than the State Maximum Efficient Rate and is sustained at such a level, the procedure now used in establishing pool quotas will be materially changed. Then the capacity rates for the settled pools and the Maximum Efficient Rate for the flush pools will become the quotas; except in those pools where the crude or gas production could not be handled. Where necessary the pool production would still be reduced to the limitation of the transportation, refining, and natural gas outlets. Obviously the production of any pool must be limited to the capacity of its producing facilities. If the sustained demand reaches this level, then the production control problem will have changed completely from one of how production should be **reduced** to one of how production could be **increased.**



The Allocation Committee

By L. E. Porter

The Allocation Committee consists of seven members elected from the Conservation Committee and, as such, represents a subcommittee of the Conservation Committee of California Oil Producers. To it come the problems concerning intra-lease and-field allocation.

It is apparent from the discussions already submitted in this symposium on the "Procedure for Scheduling California Crude Oil Production During War Time" that the process of determining the amount of oil to be produced, both as to quality and as to field or pool quota to meet war and civilian demands, is a very complex calculation. Such calculation, nevertheless, can be somewhat abstract and free from the human element of ownership in the oil since it rests behind refinery demands, engineering concept of a pool or field's maximum efficient rate, and even with Washington's "blessing."

If it were not for the fact that such pool and field allocation has to be distributed to the wells, the work in arriving at such quotas might easily rest behind a cloak of serenity enjoyed in establishing them. The work to be done before such quotas can ever be realized rests in the apportionment to the wells which can produce such pool allocations; thus, we at last reach the fundamental stage of all pool quotas, namely, the allocation to the source from which such oil and gas production is to be derived and determining the wells' capability of producing it, which really constitutes the whole fundamental problem of crude oil production and allocation during war time or, for that matter, any other time.

In drilling, the term "grief stem," applied to the upper part of the drill stem, originated because of the fact that it indicated the locale or point of severe strain or considerable grief; so, in oil allocation, the Allocation Committee is the locale or committee which experiences the thrust of considerable strain or grief caused by the acceptance or objection of the operators or owners of the wells to the current percentage of the pool or field quota as allocated to them.

Briefly, the allocation of oil to pools and fields can be segregated into two classifications: firstly, the unrestricted pools, and secondly, the restricted pools and fields. The Allocation Committee is concerned but little with respect to the first group and devotes most of its activities to supervising or preparing fundamental formulas for oil distribution among leases and wells of the restricted group. In keeping with the general program laid down by the Conservation Committee of California Oil Producers, the Allocation Committee's looking more and more to the assistance of the respective field committees in the solution of the intra-field allocation problems. This situation of having the producers within the field work up most of the data pertinent to their individual field problems has been conducive to better allocation formulas; thus there has been a reduction in the work confronting the Allocation Committee in a very material way.

Since Pearl Harbor much pro-

(*Continued on page* 31)

THIS LAUGH

OFF!!

"Guess how old I am?"
"21?"
"No."
"24?"
"No."
"23?"
"No, try 22."
"22?"
"No."

Teacher, after talking to the physiology class on the benefits of bathing, ended up by saying, "Now, children, every morning you ought to take a cold bath, and that will make you feel rosy all over. Are there any questions?"

And the boy in the back row said, "Yeah, teacher, tell us some more about Rosie."

"Now that I've told you about my past, do you want to marry me?"

"Sure, baby."

"I suppose you'll expect me to live it down?"

"No! I'll expect you to live up to it."

Doctor: "What you need, young lady, is a little sun and air."

Young Thing: "How dare you! Why, I'm not even married."

Dimples: "They claim that when women adopted shorter skirts it reduced the number of street car accidents fifty per cent."

Bill: "Wouldn't it be fine if such accidents could be prevented altogether?"

The following advertisement appeared in the home town paper: "If George Brown who deserted his poor wife and baby 25 years ago will return, the aforesaid baby will knock the Hell out of him."

Mother: "Sonnie, would you like to sleep with Nursie tonight?"

Sonnie: "Daddy, what would you do?"

Scene: A lonely corner on a dark night.

Voice: "Would the gentleman be so kind as to assist a poor hungry fellow who is out of work? Besides this revolver I haven't a thing in the world."

A little city boy who was visiting a Vermont farm for the first time was describing to his younger brother the big pig he had seen. "It was in a pen," he said, "and it was afraid of the little pigs. They would chase the big pig around the pen and after he fell down from exhaustion the little pigs pounced on the big pig and ate all the buttons off his vest."

"Heredity," the little boy wrote, "means that if your father didn't have any children and your grandfather didn't have any children, you won't have any children."

They called her the village queen because every poker player in town had held her.

"Yes, I had quite an argument with my wife about that."

"How did you come out?"

"Running!"

Spotty: Your lipstick is coming off.

Cicely: No, it isn't.

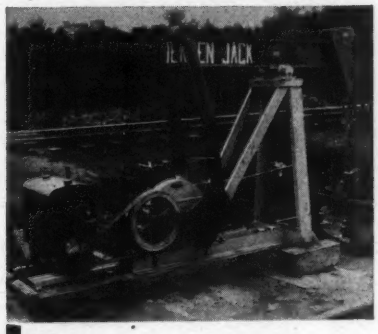
He: It is.

She: I'm sure it isn't.

He: Listen. Any time I get as close as this to a girl her lipstick is coming off!

Filling station operator up North: "I filled your tank with gas, now how's your oil?"

Southern Negro: "We all's all right, how's you all?"



Few Producers Have Seen It!

Relatively few producers, even among our best customers, have ever seen the "heart" of a JENSEN UNIT. And there you have one of the reasons for JENSEN dependability—a smooth, quiet, well designed gear reduction. Tests indicate not more than 1% power loss through the tooth mesh!

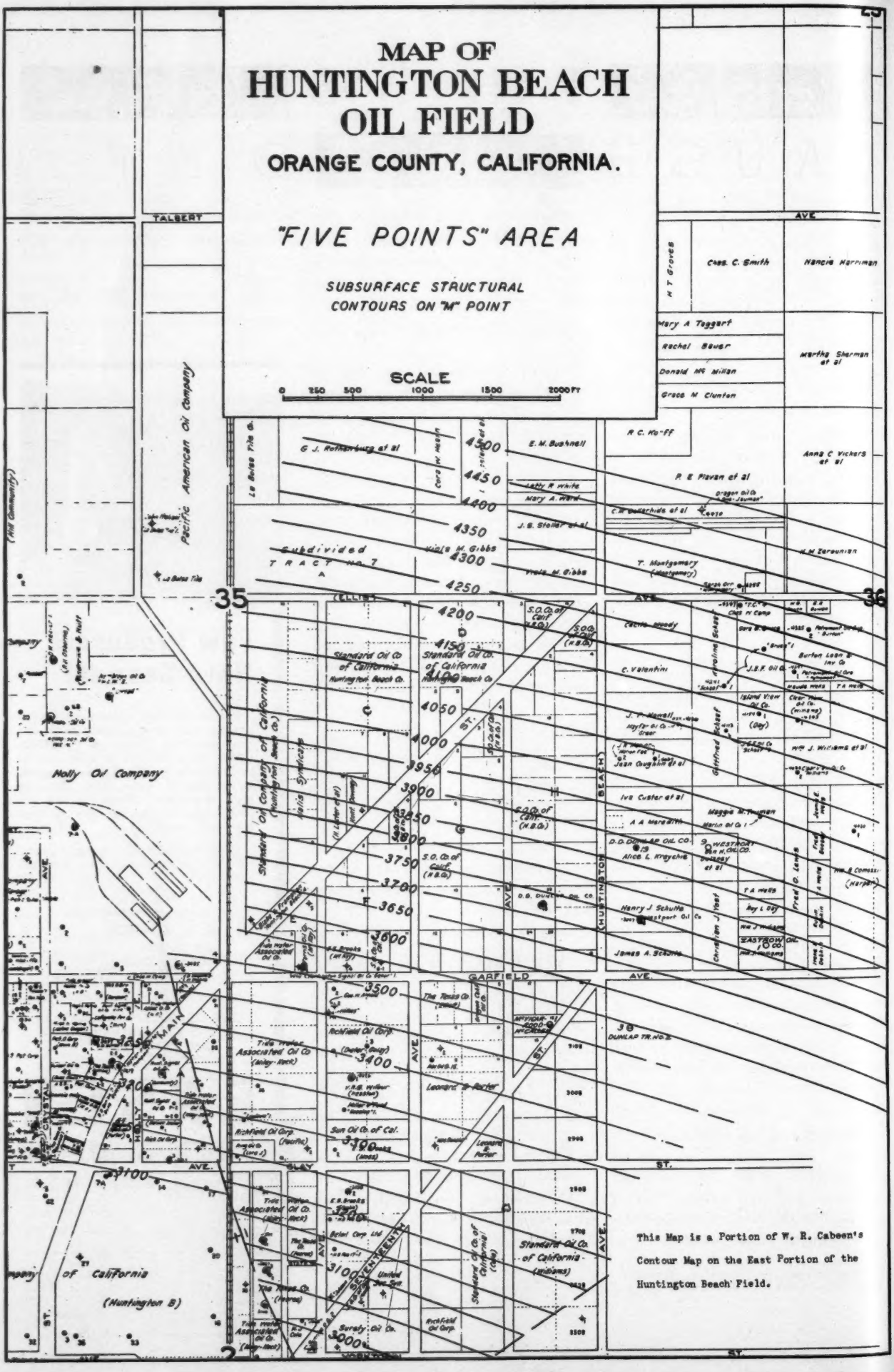
JENSEN UNITS are doing a grand job in California—why be satisfied with less?

California Representative
A. V. TURNER
445 W. 6th.
Downey, Calif.
Phone: Downey 47478

Stocked by
THE OIL TOOL CORPORATION
3075 Cherry Avenue
Long Beach, Calif.
Phone: 481-81

JENSEN
BROTHERS MFG. CO.
Coffeyville, Kansas, U.S.A.

EXPORT OFFICE: 50 Church St., New York City



This Map is a Portion of W. R. Cabeen's Contour Map on the East Portion of the Huntington Beach Field.

Five Points Area Huntington Beach, California

By WM. ROSS CABEEN
Engineering & Geological Consultant

The first active development in the "Five Points Area" started about five years ago with the drilling of the area east of Huntington Beach Blvd. and immediately south of Ellis ave. A recent spurt of activity has been started by the D. D. Dunlap interests, at a point approximately one-third of a mile southward from the nucleus of development in the "Five Points Area" with the first project being the Westport Oil Company No. 8 well. This well, approximately 300 feet structurally higher than the highest and nearest well in the "Five Points Area" proper, proved to be a more promising well than any drilled to date in this area. This well is capable of producing 130 B/D clean 18-19 gravity oil. Following the completion of the Westport well, the Dunlap interests leased several hundred acres in the vicinity surrounding the well. Since this time two additional wells have been drilled, D. D. Dunlap Oil Company Nos. 18 and 19. Both have proved to be comparable to the original Westport well. When No. 18, the second well, was completed, it was flowed with a bottom hole packer for a period of time, until it was decided most efficient to pump it. The bottom hole pressures in the recently completed Dunlap wells are greatly in excess of those of the wells in the "Five Points Area" proper, downstructure to the north. The three wells completed to date by Dunlap are now being produced between 70 and 90 B/D, which is believed the most efficient rate when the effects on recovery of gas-oil ratio, water drive encroachment, certain reservoir characteristics, etc., are taken into consideration.

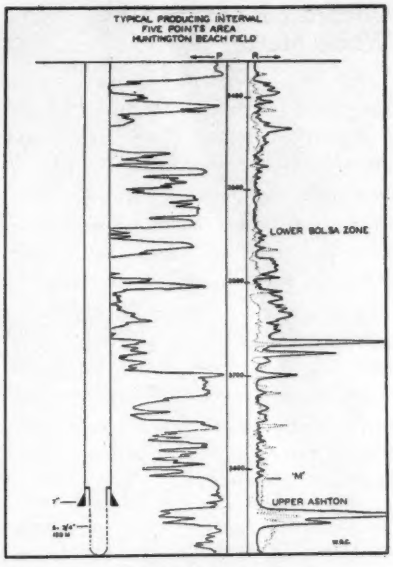
Locations on ten acre spacing have been made for many other wells by Dunlap and by other operators in the area. The Dunlap interests are now running one string continuously.

The structure in the "Five Points Area" is a northward plunging monocline with updip closure to the south being effected by faulting and to a certain extent by flattening (or terracing). A portion of a contour map prepared by the writer on the east end of the Huntington Beach Oil Field and including "Five Points Area" is shown herewith. Contours are on top of the "M" point, which is the top of the 33 feet thick shale which overlies the productive zone. This map also shows development to date and indicates possible future development to be expected.

The productive zone in the "Five Points Area" is the Upper Ashton zone of the lower Pliocene age. The amount of zone included, together with the simple completion technology used, is shown in the accompanying typical log. Not shown on this diagram is the fact that no surface casing is used. Protection of surface fresh waters is effected by cementing through a Hayward Cement Collar at approximately 1000 feet.

The sands of the Upper Ashton zone produced in the "Five Points Area" are very highly porous and permeable. The writer estimates a recovery per acre foot in this area of 500 barrels.

This area is a good example of the recent development that has been taking place in the less productive edge portions of old fields which were passed over in the periods of more flushed development. Now the growing shortage of the lower gravity crudes and the failure in discovery of any important new fields in the last few years has made it necessary, in order to meet the urgent demands of our war effort, for the California operators to develop these less favorable productive areas. This is one of the types of crude development that deserves the recent encouragement by a substantial raise in crude price. Such a price raise partially alleviates the burden of financial risk imposed on an operator who is undertaking the development of this much needed crude. Further, such a substantial price raise makes possible the development of considerable California acreage of vital crude that would be either out of the question from an economic standpoint or extremely risky for even a small return under 1942 crude prices.



The English save some 2,000,000 operating miles per year by parking their London buses, which number 550, in the center of the city during the slack hours from 9 to 4 p.m. This saves gas and the wear of taking buses back to the garage.

Camphor is one of the monopolies held by the Japanese or their conquer territories. Southern pine trees, however, are now providing a base material for synthetic camphor, thanks to the work of some chemists in the Department of Agriculture. This is just another way that research men and test tubes are solving shortages created by the Axis.

Cochran Advanced by White Motor

R. W. (Dick) Cochran, long identified with the White Motor Company in the West, has been appointed Los Angeles Branch Manager, succeeding W. E. Wilkinson, resigned. In choosing Cochran to head the important Los Angeles Branch, W. D. Patterson, Pacific Coast Regional Manager, pointed to Cochran's 22 years successful years with White and his wide acquaintance with the Southern California dealer organization, which particularly qualifies Cochran for the post.

R. W. Cochran

Cochran, although one of the young men in the White organization, has a rounded-out background of 22 years covering every phase of the truck business. He started in the Accounting Department with White in Denver in 1921. Cochran soon worked up to head this department and, in 1933, transferred to the Sales Department, becoming Wholesale Manager. For eight years in this capacity, he made an impressive record covering the West, from Mexico to Canada. From the outset in the sales department, and for eight consecutive years, Cochran made the White Club, which is limited nationally to 75 top-ranking White Salesmen.

He was rewarded for this fine showing by being selected in 1940 to head the St. Louis Branch for White. As St. Louis Manager, in two years, he showed a 100% increase in both the service and sales departments, and won the attention which resulted in his promotion to the present Los Angeles job.

In discussing this appointment, W. D. Patterson said: "Dick Cochran comes to the Coast with a thorough knowledge of the Western heavy-duty market. His years of experience, covering the oil fields in the West, the heavy construction contractors, and the long-haul, wide-open-spaces operators, particularly equips Cochran to direct a real White Service to White owners in this territory. In addition, Cochran has always been active in S. A. E. and all association activities that work to the good of the truck industry. On his past record, Cochran promises to render service to White and the industry which will win him further recognition."

Westinghouse Names New Manager For Los Angeles

Walter G. Willson, for the past 18 years Westinghouse manager at Phoenix, Ariz., has been named Los Angeles manager for the Westinghouse Electric & Manufacturing Co. The appointment was announced by Chas. A. Dostal of San Francisco, Pacific Coast District manager for the company.

Mr. Willson succeeds A. J. Bronold, who is being transferred to Pittsburgh, Pa., and promoted to a new executive post with B. W. Clark, Vice-President in Charge of Sales. Mr. Willson will be succeeded at Phoenix by Howard S. Warren, of Glendale, Calif., Westinghouse application engineer at Los Angeles for the past 21 years.

A native of Bozeman, Mont., and an electrical engineering graduate of Montana State College, Mr. Willson joined Westinghouse at East Pittsburgh, Pa., in the fall of 1913,

Walter G. Willson

as an apprentice. He served later in various capacities at East Pittsburgh and Cincinnati, O., before being transferred to Los Angeles in mid-1916 as an application engineer in the company's industry sales department.

Mr. Willson went to Phoenix in September, 1917, as an application engineer. Soon thereafter he was transferred to Tuscon, and served there until February, 1925, when he was named manager of the Phoenix office, heading up company activities throughout most of Arizona.

Mr. and Mrs. Willson (Cecil Walker) were married at Long Beach, Calif., on Feb. 8, 1918. They have one daughter, Mrs. William L. Sharks, of Pensacola, Fla. They expect to establish their new home in Los Angeles in the near future.

Mr. and Mrs. Frank Champion are celebrating the arrival of a daughter, Frances Virginia, at Los Angeles, on March 28, 1943.

C.N.G.A. meets regularly the first Thursday of each month at Rio Hondo Golf Club, 607 North Old River School Road, Downey. Dinner at 6 P.M., meeting at 7:30 P.M. Meetings open to all those interested.

Worn with Pride!

WE of National Supply feel that our awards of the Victory Fleet Flag, Maritime "M" and the Army-Navy "E" stand for more than just production achievements.

What we've accomplished has been due largely to Earnestness. When you put your whole heart and soul into a job, you're bound to come out on top. That's what the boys at the front are doing. And we're backing them up with the best we've got.

Our contributions to the war effort, for use at home and at the battle front, include munitions, oil field machinery and equipment, Diesel engines, and other highly important implements of war.

And from what we hear, these products of ours are doing a real job!

We're Eager . . . we're Enthusiastic . . . in the mass production of fine precision equipment. Some of us have been with National Supply for nearly 50 years . . . some only a few months . . . but we're all working together to bring even greater glory and prestige to our coveted awards.

We're working to outproduce the enemy—to hasten the end of the war. Then we can go back to building National-Ideal Oil Field Machinery, Spang Pipe, and Superior Diesels, to meet the needs of America's great peacetime industrial and maritime expansion.

The National Supply Company

Executive Offices: Pittsburgh, Pa.

Plants: At Toledo, Ohio; Torrance, Calif.; Houston, Texas; and Carnegie, Pa., producing Oil Field Machinery and Equipment. • At Ambridge, Pa.; and Etna, Pa., producing Standard Seamless Pipe, Spang CW Pipe, Welded Pipe and Central Rigid Steel Conduit. • At Springfield, Ohio, producing Superior Gas, Oil and Diesel Engines. • Export Sales: The National Supply Corporation, 30 Rockefeller Plaza, New York, N. Y.

Left to right: Lt.-Col. Arthur P. McGee, Executive Officer, Central Security District, 9th Service Command; William P. Hugo, Manager of Manufacturing, Tide Water Associated Oil Co.; E. H. Smith, oldest Avon Refinery employee; L. F. Bayer, Vice President in Charge of Manufacturing, Tide Water Associated Oil Co.; William F. Regan, Deputy Administrator, War Savings Staff for Northern California, U. S. Treasury Dept.; T. O. Edwards, Jr., Superintendent, Avon Refinery, Tide Water Associated Oil Co.; Lt.-Comm. C. C. Carmine, U. S. Navy, formerly Field Engineer, Avon Refinery.

Avon Refinery of T. W. A. Awarded "T" Flag

A colorful ceremony directed by T. O. Edwards, Jr., Superintendent, marked the presentation on March 25th of the United States Treasury Department's Minute Man "T" Flag to the Avon Refinery of Tide Water Associated Oil Company. The flag symbolizes the participation of more than 90% of the Refinery's employees in the company's payroll allotment plan for the purchase of War Savings Bonds, with aggregate monthly subscriptions exceeding 10% of the total Refinery payroll.

The coveted "T" Flag and Certificate of Merit were presented by William F. Regan, Deputy Administrator, War Savings Staff for Northern California, and was accepted, on behalf of his fellow employees, by E. H. Smith, Avon Refinery employee with the longest service record. It was a double celebration for Mr. Smith, who by happy coincidence was also observing his 29th anniversary as an employee of Tide Water Associated Oil Company.

Extending the Treasury Department's compliments for their patriotic achievement, Mr. Regan congratulated the Avon Refinery workers and urged increased purchases of War Bonds and Stamps.

"When we realize the terrific load our sons and brothers are shouldering at the fighting fronts, and the sad news reaching American families whose loved ones have been lost," he said, "it is no longer appropriate to call War Bond purchases a sacrifice. Rather, it is our distinguished privilege to support our country's war effort to the fullest, and the purchase of War Savings Bonds is the most effective means of furthering victory."

Representing the Navy at the ceremony was Lt. Comm. C. C. Carmine, for some years Field Engineer at Associated's Refinery, who was warmly welcomed by his former co-workers.

A message on "Plant Protection" was given by Lt. Col. Arthur P. McGee, Executive Officer, Central Security District, 9th Service Command.

L. F. Bayer, Vice President in Charge of Manufacturing, expressed the entire company's appreciation for the splendid bond purchase record of Avon Refinery and congratulated them upon joining the five other Associated units who have achieved the "T" Flag goal.

Robinson Resigns From P.A.W.

Resignation of Phillip M. Robinson as assistant director of refining in the Petroleum Administration for War, effective March 31, was announced by Deputy Administrator Ralph K. Davies.

Mr. Robinson is resigning because of his health, Mr. Davies said, and plans to spend several weeks resting at his home in Detroit, Texas. Not until after he has fully regained his health does Mr. Robinson contemplate making plans for the future.

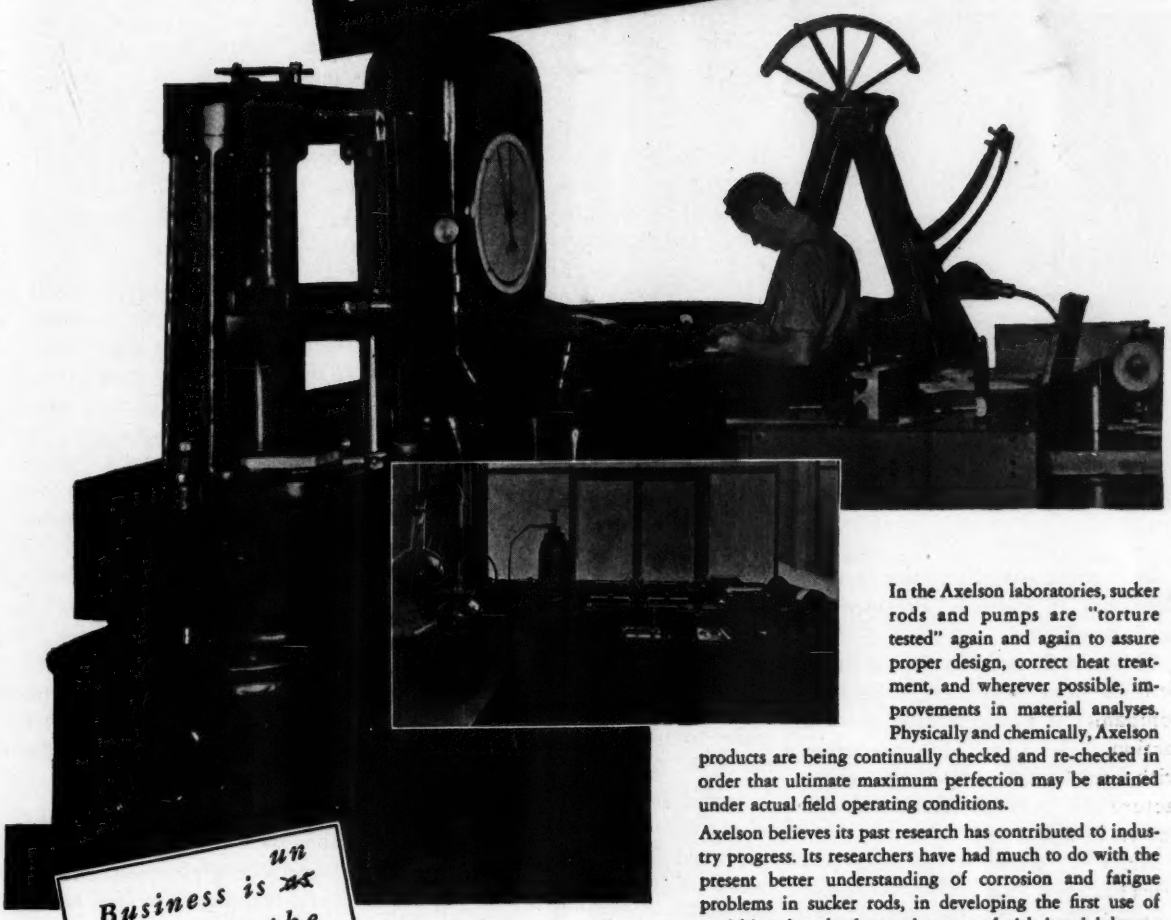
One of the first oil men to come to Washington to work on the nation's oil problems, Mr. Robinson served as assistant to Dr. R. E. Wilson, petroleum consultant in the National Defense Advisory Commission, and later Office of Production Management, from December, 1940, until August, 1941. On August 24, 1941, Mr. Robinson joined PAW (then the Office of Petroleum Coordinator for National Defense) as assistant director of refining.

Most of us think that all mining is underground. But Nitrogen, a major military item, is "mined" from the air. There are 34,500 tons of it above every acre of ground. Everytime a 16-inch naval gun is fired, 120 pounds of Nitrogen are used, and a 24-foot torpedo uses more than 100 pounds.

Oil Workers are War Workers.

IN WAR OR PEACE, RESEARCH MUST GO ON...

...and does at Axelson



Business is unusual in the Oil Industry

AXELSON 50th YEAR 1892 1942 ARMY NAVY

AXELSON MANUFACTURING COMPANY
POST OFFICE BOX 98, VERNON STATION, LOS ANGELES, CALIFORNIA
St. Louis, Missouri • 50 Church Street, New York City • Tulsa, Oklahoma
Mid-Continent and Eastern Distributor: Frick-Reid Supply Corporation • *Rocky Mountain Distributor:* Great Northern Tool & Supply Company • *Foreign Distributors:* Axelson Manufacturing Company, Avda. Pte. R. Saenz Pena 832, Buenos Aires, Argentina • Industrial Agencies, Ltd., 7 High Street, San Fernando, Trinidad, British West Indies • C. C. McDermond, Apartado 331, Maracaibo, Venezuela

In the Axelson laboratories, sucker rods and pumps are "torture tested" again and again to assure proper design, correct heat treatment, and wherever possible, improvements in material analyses. Physically and chemically, Axelson products are being continually checked and re-checked in order that ultimate maximum perfection may be attained under actual field operating conditions.

Axelson believes its past research has contributed to industry progress. Its researchers have had much to do with the present better understanding of corrosion and fatigue problems in sucker rods, in developing the first use of vanishing threads, the employment of nickel-molybdenum steel, and in the normalizing and tempering of rods throughout their entire length. Axelson pump parts long wear may be attributed to exhaustive laboratory tests on heat treatment, proper materiel selection and design predicated upon minimum fluid friction.

Today Axelson Pumps and Sucker Rods are subjected to war loads—to beat the war lords. Reports from fields where they are taking punishment encountered under every conceivable pumping condition indicates that past Axelson research was justified.

In war as well as peace, Axelson metallurgists and researchers will continue, consistent with manpower and materiel conditions, their scientific studies for the benefit of the Oil Industry.

AXELSON SELLS AND *SERVICES*
DEEP WELL PLUNGER PUMPS AND SUCKER RODS

Charles R. Cox Elected Pres., National Tube Co.

The election of Charles R. Cox as President of the National Tube Company and of Tubular Alloy Steel Corporation, was announced on March 28th by the Boards of Directors of these two U. S. Steel subsidiaries.

Charles R. Cox

In commenting on the action, Benjamin F. Fairless, President of U. S. Steel, said:

"The election of Mr. Cox as president of these important subsidiary companies is a source of real satisfaction. He is an able executive, with a wide experience in the manufacture of tubular products, and well known in that field."

Mr. Cox, who for the past two years has been Executive Vice President of National Tube Company, will succeed Benjamin F. Harris, who recently resigned. Mr. Harris is now a consultant to Mr. Fairless in connection with war activities.

Coming to the National Tube Company from his position as Superintendent of Babcock & Wilcox Tube Company, Beaver Falls, Pa., in 1934, Mr. Cox was employed at the Ellwood Works, Ellwood City, Pa., where he soon became General Superintendent of the plant. In 1936, he was appointed Vice President in charge of Operations, National Tube Company, with offices in Pittsburgh.

Standard Oil Issues Annual Report

Standard Oil Company of California in 1942 paid its 75,688 stockholders a total of $19,505,930 in dividends, paid almost the same amount in taxes ($19,547,647), and paid its employees somewhat more than two and a half times as much in wages, or $51,239,421.

This was revealed in the company's annual report, just off the press.

The company and its subsidiaries did $238,359,051 worth of business in 1942, an increase of 16.3% over 1941, while combined net earnings were $30,558,547, an increase of 2.2%.

Some $42,000,000 was expended on plant construction and expansion to increase production of products vitally needed for the war. Illustrating results of this stepped-up production, the company materially increased its output of aviation gasolines, and expects to increase again in 1943.

Other highlights in a year marked by quick adaptation to war-time demands:

Work was started on an important plant to make butadiene for synthetic rubber. A plant to make toluene, from which TNT is made, is now in production.

Added facilities increased output of special fuels and lubricants for improved operation of submarines, tanks and other types of military equipment, as well as essential war industries.

Two large tank ships, the J. H. Tuttle and the R. C. Stoner, have been launched as timely contributions to the nation's sea transport system.

The report, signed by President H. D. Collier, pays tribute to the more than 3,000 employees at its Richmond Refinery for winning the Army-Navy "E" award for "outstanding production of war materials," and to the 5,000 Standard employees now in the armed services. It also commends all the Standard employees for winning the Treasury "Bull's Eye" flag by investing 10 per cent of their earnings in War Bonds.

"The Amazing Petroleum Industry"

PETROLEUM, the most important raw material in the world, has assumed such widespread interest to the public that everyone from school children on is seeking information on this war material which is playing such a vital part in the war-of-nations and their own lives. It is to serve such a clientele that "The Amazing Petroleum Industry" is dedicated.

The book is an interesting and non-technical resume of what petroleum is—what it does—how it is obtained — how chemists have learned to extract from it gasolines of super-performance by the "cracking" process and how essential by-products are derived. Written in language easily understandable by the layman, it briefly and clearly highlights the story of petroleum. It should prove of particular interest to college students, to young engineers beginning their careers in the petroleum industry, and to persons already connected with it but not directly engaged in production or refining of oil.

Dr. Vladimir A. Kalichevsky, its author, is a noted research and development engineer who has written several technical treatises on the refining of lubricating oils, gasoline and other petroleum products. Born in the oil city of Tiflis, in the Russian Caucasus, Dr. Kalichevsky came to America in 1921 and since 1924 has been connected with the American petroleum industry.

"The Amazing Petroleum Industry", by Dr. Vladimir A. Kalichevsky. Clothbound, 234 pages. Published by Reinhold Publishing Corporation, 330 West 40th St., New York, N. Y. Price $2.25.

Oil Workers are War Workers.

New, All Purpose 435 hp. High Speed Gas Engine Delivers Abundant Power on Low Cost Local Fuels

Climax Engineering Company, Clinton, Iowa announces the new V-12 Blue Streak Engine—the latest addition to the extensive line of the company's engines and engine-generator sets.

With a normal speed range of 600 to 1200 r. p. m. and a brake horsepower of 435, the new V-12 meets today's demands for a high speed engine which will mesh with modern power consuming machinery for rock or oil drilling, operating large pumps and compressors, driving mining and construction machinery and, with suitable generators, a low cost means of generating electric power. For Oil Field Service the new Climax V-12 Engine is an ideal power unit for deepwell oil drilling, oil well and pipe line pumping and for stationary power and construction service.

Several outstanding design and operating characteristics make this new engine a newsworthy prime mover. Among these are:

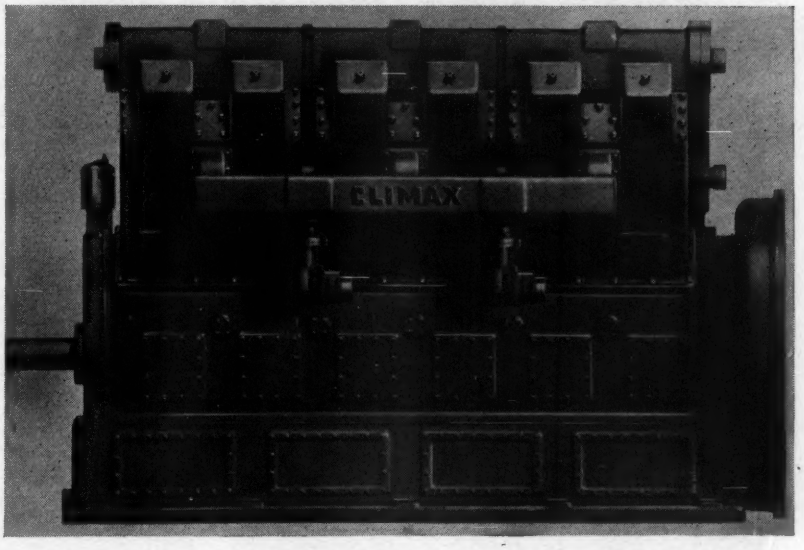
Wide Fuel Range—It will deliver peak power on natural gas, butane, gasoline or other fuels. Changeover is quick and easy with standard, outside located accessories.

Economical Dual Carburetion—provides complete and uniform fuel distribution which results in full power and low consumption of fuels used. The sensitive venturi type carburetors, equipped with pilot valves, provide close fuel regulation and prevent flooding.

Dependable Dual Ignition—Each cylinder has two spark plugs. These provide a greater flame, increase power output and remove the possibility of ignition failure. Should one plug fail, the other will continue to operate.

Perfect Turbulence—The special shaped combustion chamber assures maximum turbulence for perfect combustion. Its shape, and the location of spark plugs reduces tendency to **detonate** when sudden or sustained overloads are encountered.

High Capacity Cooling System—Widely spaced, large capacity cooling jackets cover entire length of stroke. This plus the wide spacing of valves, and entrance of water where heat is greatest provides cool running, and long life.



Climax V-12 Series, 12 Cylinder Blue Streak Engine for operation on gasoline, butane, natural gas or sewage gas.

Safety Devices Halt Overheating, Low Oil Pressure—Water temperature and oil pressure switches protect the engine from damage in the event of overhauling and low oil pressure.

Uniform Speeds—Smooth Run ning—The extra heavy flywheels promote uniform speeds. The kinetic energy produced helps to maintain smooth effortless running.

Extra Rigid Mounting, Reduced Vibration—The heavy cast iron box type base maintains rigidity and alignment, while providing a firm foundation which reduces engine vibration and absorbs stresses.

Infrequent and Low Cost Maintenance—Of particular value is the fact that the V-12 can be maintained by regular field or shop men without the need for special training. Again, the low piston speeds and moderate compression enable the engine to run for long periods of time without servicing.

Type and Size—The Climax new V-12 is available in two bores Model V-335, 6½" bore and 7" stroke develops 375 hp at 1200 r. p. m. Model V-390 with a 7" bore and 7" stroke develops 435 hp. at 1200 r. p. m.

Dual ignition can be furnished in the following combination.

Dual Battery ignition

Dual magneto ignition

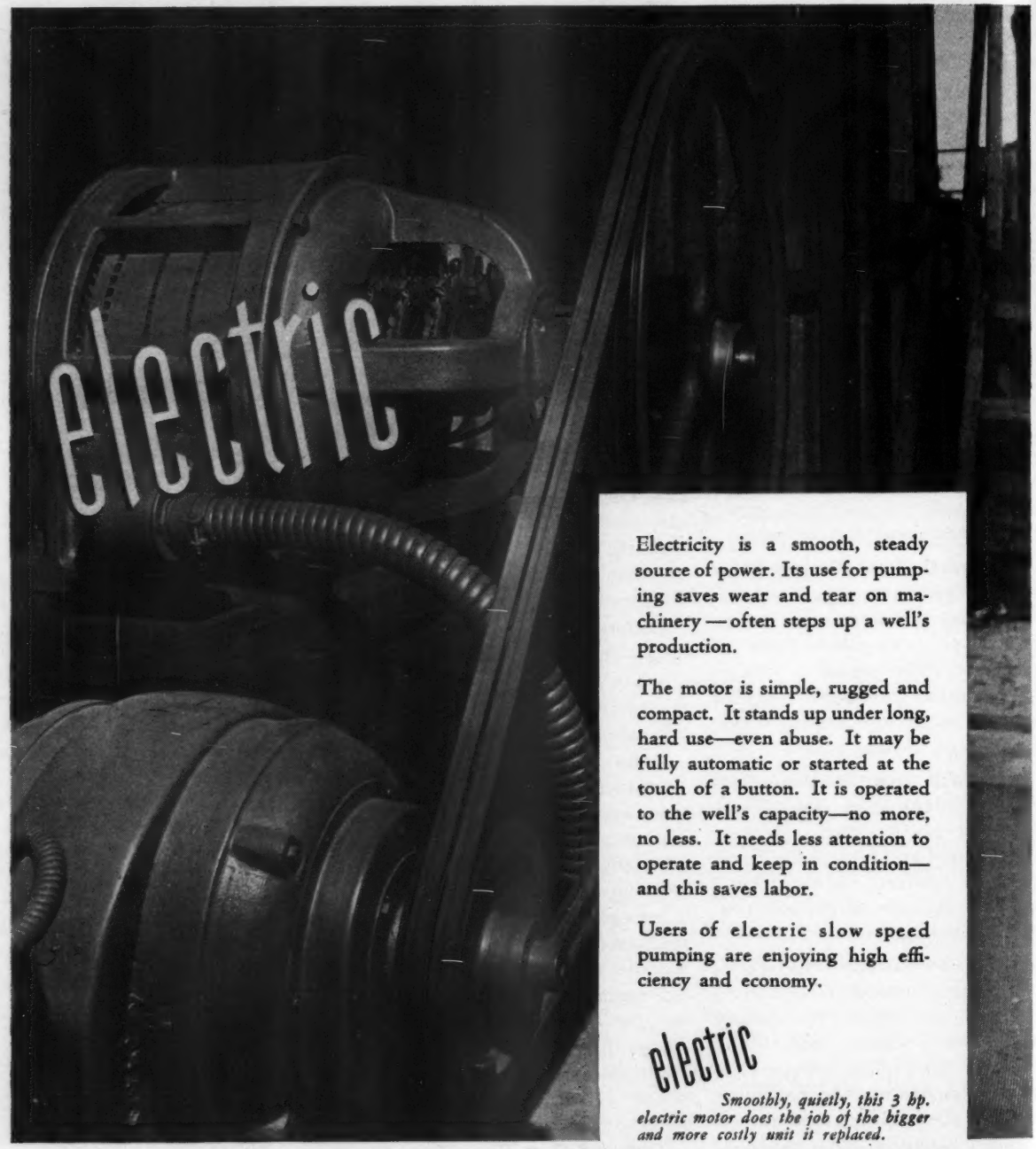
Dual battery and magneto ignition.

Standard design features include wet cylinder sleeves, seven-bearing crankshaft, overhead valves, aluminum (5 ring) pistons, rifle drilled connecting rod and fuel changeover devices. Where required, Climax will furnish a complete range of accessory equipment such as starting devices, air cleaners, filters, radiators, heat exchangers, etc. All of these may be selected to meet the specific needs of the particular installation.

For more complete information—specifications, tests data, recommended applications, write to Climax Engineering Company, Clinton, Iowa.

Oil Workers are War Workers.

Save equipment and manpower with electric slow speed pumping



Electricity is a smooth, steady source of power. Its use for pumping saves wear and tear on machinery — often steps up a well's production.

The motor is simple, rugged and compact. It stands up under long, hard use—even abuse. It may be fully automatic or started at the touch of a button. It is operated to the well's capacity—no more, no less. It needs less attention to operate and keep in condition—and this saves labor.

Users of electric slow speed pumping are enjoying high efficiency and economy.

electric

Smoothly, quietly, this 3 hp. electric motor does the job of the bigger and more costly unit it replaced.

SOUTHERN CALIFORNIA EDISON COMPANY LTD.

Field Development

Los Angeles Basin

Tar Zone Well Comp. Flowing

Long Beach Oil Development Co.'s Tar Zone development in the Wilmington Harbor area was rewarded when "X" No. 14 was completed from 278 ft. of zone at 2232 ft. flowing an initial 336 bbl. rate. Under controlled production with a 12/64 in. bean the well makes 125 bbls. of absolutely clean 15.3 gravity oil and 196,000 cu. ft. of gas under pressures of 460/700 lbs. The gas-oil ratio of 1570 is attributable to the wells structurally high position and will probably be improved with further drilling down the flanks.

Located southwest of the intersection of Seaside Blvd. and Santa Barbara Avenue the well is the forerunner of an expected increased drilling program to produce the valuable reserves of fuel oil obtainable in this section of the field.

"Inside Driller" Getting Deep

Shell Oil Co., Inc.'s housed-in Verne Community No. 1 in the Los Angeles City area is drilling near 7000 ft. without having reported encountering adequate saturation. No geologic information is officially released by the company, but field scouts report that while upper sand sections were found in place little faith in their production capacity is held. The true objective in the exploratory well, a Miocene sand comparable to the Sentous zone at Inglewood, has not yet been reported as logged and some opinions are that the well will continue to basement if necessary before testing uphole.

Failure to find oil production in this well by no means writes off the potentialities of the area since further slant hole drilling could conceivably result in a substantial discovery on another portion of the large area under prospect.

East Coyote Work Starts

Graham-Loftus Oil Corp has started the first of a three-well program in the East Coyote field. First to get under way was Perkins No. 4 which is drilling at 2985 ft., while foundation has been poured for No. 5.

Other activity in the field is a scheduled well for Severns Drilling Co. on sec. 13-3s-10w and a redrill job on Wood-Callahan Oil Co.'s 5317 ft. Tuffree No. 1 on sec. 19-3s-9w.

Inglewood Work Scheduled Soon

Standard Oil Co. staked location for three projects in the Inglewood field for inside development. The projects will be L. A. Investment No. 1-88, Vickers No. 1-36 and Sotex-Rubel No. 28.

Tide Water Assoc. Oil Co. which is completing Vickers No. 42 after redrilling upper sands to 2080 ft. is rigging up Vickers No. 78 as a grass root job.

Torrance Work Now Starting

In the Harbor City section of the Torrance field The Texas Co. is preparing to drill Oakley No. 8 as a Terminal Zone well 551 ft. east and 1136 ft. south of the centerline of Lomita Blvd. and Dodge Avenue.

In the Redondo-Torrance section Wood-Callahan Oil Co. Dominguez

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
La Mirada	The Texas Co., McNally	A-3	22, 3-11	8434	Drilling
Las Llajas	Western Gulf Oil Co., Brady	1	13, 3-17	8612	Drilling
L. A. City	Shell Oil Co., Inc., Verne Comm.	1	24, 1-13	6676	Drilling
Montebello	Cont. Oil Co., Baldwin	1	3, 2-11		Location
Newhall	Aztec Oil Co., Sanborn	1	6, 3-16	7327	Swabbing
Puente	Barry Oil Co., Inc., Roland	1	14, 2-10	2423	Pumping
	Melvin Hansen, Dragna	1	24, 2-10	2910	Drilling
Rio Hondo	Potrero Oil Co., Newman	1	32, 1-11	7111	Idle
Temescal	The Texas Co., Dominguez	57-1	1, 4-18		Location
Whittier-La Habra	H. & C. Oil Co., Joyce	1	22, 2-11	5292	Drilling
	Los Nietos Valley O. Co., Woodward	1	29, 2-11	3600	Redrilling
	Orange County				
Buena Park	The Texas Co., B.P.U.	5-J-1	31, 3-10	9577	Abandoned
Corona Del Mar	Signal Oil & Gas Co., Irvine	1	6, 7-9	1900	Abandoned
Costa Mesa	Chas. W. Camp	25	15, 6-10	1244	Drilling
	Carrey, A. A., Meyer	1	16, 6-10		Grading
Newport Beach	D. W. Elliott Townsend	1	20, 6-10		Prep. to spud
	San Bernardino County				
Carbon Canyon	Stella, E. F., McDermott	2	5, 3-8	1184	Idle
Colton	Supreme Oil Co., Well	1	2, 2-4	940	Idle

Estates No. 4 is pumping 45 bbls. of 14.5 gravity oil daily with a gross cut of 20.0% sand. On the same section 5, 4s-14w Thomas W. Simmons is setting whipstock to redrill his 3589 ft. Redondo-Simmons No. 11 while LeBow-McNee is preparing to redrill Dominguez No. 1, which it recently acquired from Jergins Oil Co.

Two Finished At Yorba Linda

Shell Oil Co., Inc., completed Olinda Fee No. 4 wells 57-16 and 66-16 for substantial yields. The former bottomed at 2540 ft. to complete on the bean for an initial 78 bbls. in 4 hours while the latter came in flowing from 2225 ft. with settled production rated at 376 bbls. of clean 19.1 gravity oil through a 24/64 in. bean. Tubing pressure is 150 lbs. while the casing dial reads 620 lbs.

In the easterly section of the field Hiles Drilling Corp. is preparing to drill near the northeast corner of the Yorba Linda Tract.

Hellman To Drill Seal Beach Well

Hellman Estate Co. has let the drilling contract to Pike Drilling Co. for well No. 14 on sec. 11-5s-12w in the Seal Beach field. Work is expected to start within 30 days. Also in the field Continental Oil Co. is preparing to redrill well No. 29.

The U. S. steel industry has a producing capacity nearly 65 per cent greater than the combined capacity of Germany and all of Axis Europe.

Many people around the world enjoy collecting book match covers. Few know, however, that the first book matches were made in Ohio in 1896.

Oil Workers are War Workers.

The war is creating a shortage even in trained librarians. Defense plants take most of them, but the Army is also getting its share. Enrollment in library schools is down 12 per cent this year and still dropping.

Welding is the newest of the major trades. While there were 75,000 welders in 1939, there are 280,000 at work in the United States today.

Bath tubs made of plywood are now being tested. It is expected that they will be made into odd shapes to fit into that angular closet which is not now being used.

Radio engineers have developed a pocket radio receiver not much larger than the average notebook —six inches high and about two inches thick. The miniature set has a crystal receiver which fits into the ear.

H&B

CONTINUES TO BE ABLE TO FURNISH PARTS AND PROVIDE SERVICE FOR

Wilson

DRILLING RIGS
PRODUCTION HOISTS
AND OTHER EQUIPMENT

H&B SALES CO.
2875 CHERRY AVE., LONG BEACH, CALIF.
TELEPHONE LONG BEACH 416-59

Our lines are open DAY and NIGHT!

HALF AN HOUR is still average delivery time to your rig when you call the nearest of **five** Bowen Service Stores strategically located in California oil fields!

Veteran Bowen service men are on hand 24 hours a day to take your call for fishing tools and deliver them to your rig in a hurry. Full stocks of top-notch tools . . . trained, competent service crews . . . fast, reliable delivery . . . have ALL been maintained at pre-war efficiency for your convenience. **Not a Bowen store in California has "closed for the duration."**

So next time—when there's a fish in the hole—give Bowen a ring. Around-the-clock service in **every** active territory!

BOWEN FISHING TOOL CO.
SANTA FE SPRINGS, CALIFORNIA
VENTURA · BAKERSFIELD · AVENAL · SANTA MARIA
CASPER, WYOMING

Coastal District

Santa Maria Crude Prices Increased

Maximum increases in the Santa Maria Valley and Orcutt price schedules of 17 cents and 18 cents a barrel extends to these fields for the first time since the start of the war a price schedule giving effect to increased steamship transportation costs. Most of the crude purchased in these fields is moved to refineries by tankship. Since early in 1942 tankships serving the area have been under the jurisdiction of the War Shipping Administration. Special war-time costs to cover war risk insurance, war-bonus pay to marine personnel and other charges, has increased transportation costs approximately 10 cents above pre-war levels. Heretofore, such additional costs have been absorbed by the purchasing company.

"The manner in which the new ceiling prices must be applied to crude oil purchases sharply curtails the effectiveness of the price changes in the matter of stimulating drilling, exploration and rehabilitation activity in the oil fields," Reese H. Taylor, president, said in announcing Union Oil Co.'s new price postings. "The new order bars any increase in price to crude oils of more than 25.9 gravity. This restriction in price adjustments prevents the refiner or purchasing company rewarding the producer of crudes above 25.9 gravity for the fuel oil values in their product. In applying the new ceilings, therefore, less than half of the increase in price obtained from the sale of the end product can be passed along to the producer of crude.

"The OPA's ceiling price adjustments, based entirely upon the gravity range of crude oil, actually creates a maladjustment in values by its failure to consider the market value of the end product. As an example, 15 gravity Santa Maria Valley crude contains only about 80% fuel oil residuum. The refiner must add to this residuum anywhere from 30% to 50% gas-oil blending stock to bring it up to specification. Other crudes in the state, however, can be converted by the refiner almost 100% to fuel oil and brought up to specification by the addition of as little as 3% blending stock.

"The OPA's adjustment of ceiling values assumes 100% of all crudes of 15 gravity is fuel oil, and that all gravities of crude oil below 25.9 gravity contain the same percentage of fuel oil, and fails entirely to recognize any fuel oil value in crude of 26 gravity and above."

Lompoc Well Looks Good

Alphonzo E. Bell Corp.'s Lompoc No. 6 on sec. 28-3n-34w in Santa Barbara county gives evidence of being a commercial heavy oil producer. Currently standing plugged at 4905 ft. to shut off bottom sulphur water, the well made a 50 bbl. net pumped recovery of 10 gravity oil in the barefoot section 4602-4997 ft.

Butte Co. Well Proved Failure

Pacific Western Oil Corp. & Geo. F. Getty, Inc.'s Independent Expl.-Cana No. 1 on sec. 11-23n-1w went on the hook at 6969 ft. after proving barren on tests of the intervals 6000-60, 5600-5750 and 5400-5500 ft.

San Joaquin Co. Well Yet Testing

Amerada Pet. Corp.'s Lodi Comm. No. 9-1, sec. 9-4n-7e, which has already demonstrated commercial gas production in the intervals 2580-90 and 2566-76 ft. gun perforated from 2520 to 2535 ft. to blow dry gas at a 4,440,000 cu. ft. rate. At last report the well was cementing for further trial uphole. Faith in the area is demonstrated by the company since it already is grading site for No. 8-1 on the adjacent section 8.

Oil Workers are War Workers.

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Gato Ridge	General Pet. Corp., Wickenden	2	24, 8-32	2188	Drilling
Goleta	Del Mar Oil Co., Rowe	1	11, 4-28	4114	Drilling
Lompoc	Alphonzo E. Bell Corp., Lompoc	6	28, 8-34	4997	Testing
	Fricket Oil Co., Ltd., Well	1	8, 7-33		Rig
Los Olivos	Tide Water A. O. Co., Chamberlin	1	33, 8-31	5194	Testing
Purisima Hills	Whittier Assoc., Barham	1	11, 7-32		Grading
	Ventura County				
Bardsdale	San Marino Oil Co., Elkins	1	7, 3-19		Rig
Conejo	L. A. Basin Oil Co., Well	1	4, 1-20	1745	Idle
	Sycamore Oil Co., Boylan	1	23, 1-20	2747	Idle
Ojai	Coates, Spencer D., Pirie	5	7, 4-22	1033	Idle
Piru	Continental Oil Co., Holser	2	14, 4-18	5530	Drilling
	Delroy Pet. Corp., Fisk, C. H.	3	22, 5-18	2802	Idle
	Pac. West. O. Corp., Temescal	14	4, 4-18	3350	Testing
	T.W.A. Oil Co., Hidden	2	5, 4-18	6231	Drilling
Rincon	Shell Oil Co., Inc., Tomson	1	8, 3-24	3040	Drilling
Santa Paula	J. J. Stevens, Corehole	1	1, 4-20	1102	Rigging up
Sespe	McCaslin, W. E. Burson	1	19, 4-19	2039	Idle
	Volunteer Pet. Co., Tar Creek	3	28, 5-19	540	Idle
South Mt.	South Mt. Oil Co., Well	1	19, 3-20	2750	Rigging up
Timber Canyon	A. T. Dennison, Well	1	13, 4-21	2202	Bailing
	Crude Oils, Inc., West	1	19, 4-20	958	Idle
	Fletcher & Babcock, O'Leary	1	29, 4-20		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Butte	Pac. Western & Getty Cana	1	11, 23n-1w	6939	Abandoned
Monterey	Columbia Oil Co., Vierra	1	7, 13s-2e		Rig
Sacramento	Richfield Oil Corp., Natomas	1	17, 10n-4e	4226	Drilling
San Joaquin	Amerada Pet. Corp.,Lodi Comm.	9-1	9, 4n-7e	4471	Testing
	Bankline Oil Co., Comm.	1-1	1, 4n-16e	2864	Drilling
San Luis Obispo	W'n Gulf Oil Co., Huasna Comm.	1	35, 31s-14e	2120	Drilling
Solano	Amerada Pet. Corp., Starkey Fee	1	2, 6n-2e	8971	Drilling

Rio Vista Gasser In

Amerada Pet. Corp. finished its gasser, Kuhn Comm. No. 2 on sec. 28-4n-3e, at 4300 ft. and was shut in pending demand. No flow estimates were made from the 165 ft. of perforations shot into 3½ in. casing.

On sec. 5-3n-3e of the field Standard Oil Co. is preparing to test Midland Fee No. 1-3 at 4260 ft. after cementing 5½ in. casing at 3930 ft. The Green Sand was entered here at 3950 ft. with the White Sand found at 4070 ft.

BUDA POWER

GAS--GASOLINE--
DIESEL--BUTANE

•

SALES SERVICE

•

PRODUCTION EQUIPMENT COMPANY

651 East Gage Ave.
Los Angeles, California
ADams 5148

Rincon Outpost Now Under Way

Shell Oil Co., Inc.'s Tomson No. 1, an attempt to establish production near the center of the southwest quarter of sec. 8-3n-24w at the north flank of the Rincon field is drilling below 2000 ft. after cementing 11¾ in. casing at 2040 ft. The driller is adjacent to the Bond. Dev. Co. Rincon No. 1 which abandoned at 5480 ft. after finding the Miley zone barren in early 1942.

National Supply Announces Changes

Allen P. Colby has been appointed Advertising Manager of all divisions of The National Supply Company, whose executive offices are in Pittsburgh, Pa., and general sales offices in Toledo, Ohio. R. M. Sylvis, formerly Advertising Manager of Spang-Chalfant Division of National Supply Company, has been appointed assistant Advertising Manager, with headquarters in Pittsburgh. Mr. Colby is Vice-President in charge of membership, National Industrial Advertisers' Association.

National Supply Company plants are located in Toledo, Ohio; Torrance, California; Houston, Texas; Carnegie, Etna and Ambridge, Pa.; and Springfield, Ohio. Previous to this, Mr. Colby was Advertising Manager of the oil field division at the Toledo plant. His headquarters will remain in Toledo. The National Supply Company manufactures oil field machinery and equipment; oil field and industrial pipe and conduct; and gas, oil and Diesel engines.

Meldrum and Fewsmith, Inc., Cleveland, Ohio, has been appointed to serve all divisions of the National Supply Company, with Clifford A. Kroening, Vice-President as account executive.

Oil Workers are War Workers.

Craig Joins P.A.W.

Appointment of Lucien F. Craig as assistant director of the Division of Petroleum Supply was announced on April 3rd by Deputy Petroleum Administrator for War Ralph K. Davies.

Mr. Craig has resigned from the Gulf Oil Corporation, where he served as assistant general manager of fuel sales, handling petroleum coke sales, fuel oil exchanges, purchases, and other supply and distribution problems relating to fuel and furnace oils in the Pittsburgh District and Western States.

The new assistant director has had some 26 years experience in the oil business.

Born in Oklahoma City, Oklahoma, he attended grammar and high schools in Temple, Texas. He studied at the University of Kansas, leaving in 1914 to take a position with the Board of Trade of Kansas City, where he remained for two years. From 1916 to 1921, except for six months in the Army, he was with the Empire Gas and Fuel Oil Company, at Bartlesville, Oklahoma, first in the accounting department and later in charge of the distribution of accounts department.

From 1921 to 1923, Mr. Craig was a member of a certified public accounting firm in Oklahoma and was assigned to petroleum industry clients. In 1923, he left that firm to become assistant secretary and treasurer of the Independent Oil and Gas Company, of Tulsa, Oklahoma. Later he became assistant to the vice-president in charge of marketing and remained in that capacity until 1930, when the firm merged with the Phillips Petroleum Company.

He continued with the Phillips Company in the wholesale and retail marketing offices in St. Louis, Omaha and Peoria. During the period of NRA, he served in Washington as Secretary of the Board of Review of the Planning and Coordination Committee and as assistant to the National Coordinator for Refining. He remained in those posts two years.

In 1935, Mr. Craig joined the Gulf Oil Corporation with headquarters in Pittsburgh, a position he held until called to Washington by the PAW.

San Joaquin Valley

Union Plans Coalinga Well

Union Oil Co. is rigging up to drill Calif-Coalinga Fee No. 77-8 on a here-to-fore undeveloped portion of sec. 8-20s-15e in the West Coalinga field.

On section 6 of the township General Pet. Corp. finished Esperanza No. 111 at 1759 ft. pumping 45 bbls. in 12 hours and is drilling No. 117 in oil sand and shale at 1195 ft.

Shell Oil Co., Inc., and Standard Oil Co. are each proceeding with their multiple string development programs in the field. Substantial producers are resulting with no spectacular returns to be reported from the work.

Cymric Area Test Working

The Los Nietos Co. et. al. interests continue with Sheep Springs No. 1 on sec 20-29s-21e. Last reported spot coring hard brown shale at 3134 ft. the well has cored some lean oil sands below 1065 ft. but which have not appeared capable of production.

Near the north quarter corner of section 26 Honolulu Oil Corp. staked location for Fitzgerald No. 1 as an immediate wildcat.

Southeast Midway Wildcat Abandoned

The Texas Co. abandoned Pioneer Unit Plan No. 2 on sec. 33-11n-23w in hard shale at 10607 ft. The test cored gray sands on the way down but failed to find saturation in any interval. At press time no correlations between this test and No. 1, drilled in 1938, were available. The first well bottomed in Eocene gray sand at 8869 ft.

Paloma Work To Resume

Western Gulf Oil Co. is rigging up to start L. A. Club No. 36-1 on sec. 1-32s-26e in the Paloma field. Long dormant because of government materials restrictions, the field is a rich source of gas and high gravity condensate as well as blacker oils on the flanks. Discovered in 1930 on acreaege held jointly by Western Gulf and The Texas Co. the field embraces some 1780 acres reasonably expected to be productive with a present total of 8 wells drilled. The oil is produced from various Miocene sands in a 400 ft. horizon above depth of 10,143 to 10,722 ft. over the field with initials running from 500 to 2500 bbls. daily with large amounts of commercial gas.

Edison Well Completed

Jergins Oil Co.'s Jergins-Texas Fee No. 23-14 on sec. 23-30s-29e in the Edison field was completed at plugged depth of 1913 ft. after bottoming in Schist at 2056 ft. Initial production from 115 ft. of zone was 164 bbls. of 21.6 gravity oil with a gross cut of 9.0%. The pumped return settled to a present gauge of 93 bbls. per day. The company is rigging up to spud Clinton Land Co. No. 1 near the old Duff-Shell No. 5 southeast of the center of sec. 15-30s-29e.

Cantua Tests Yet Continue

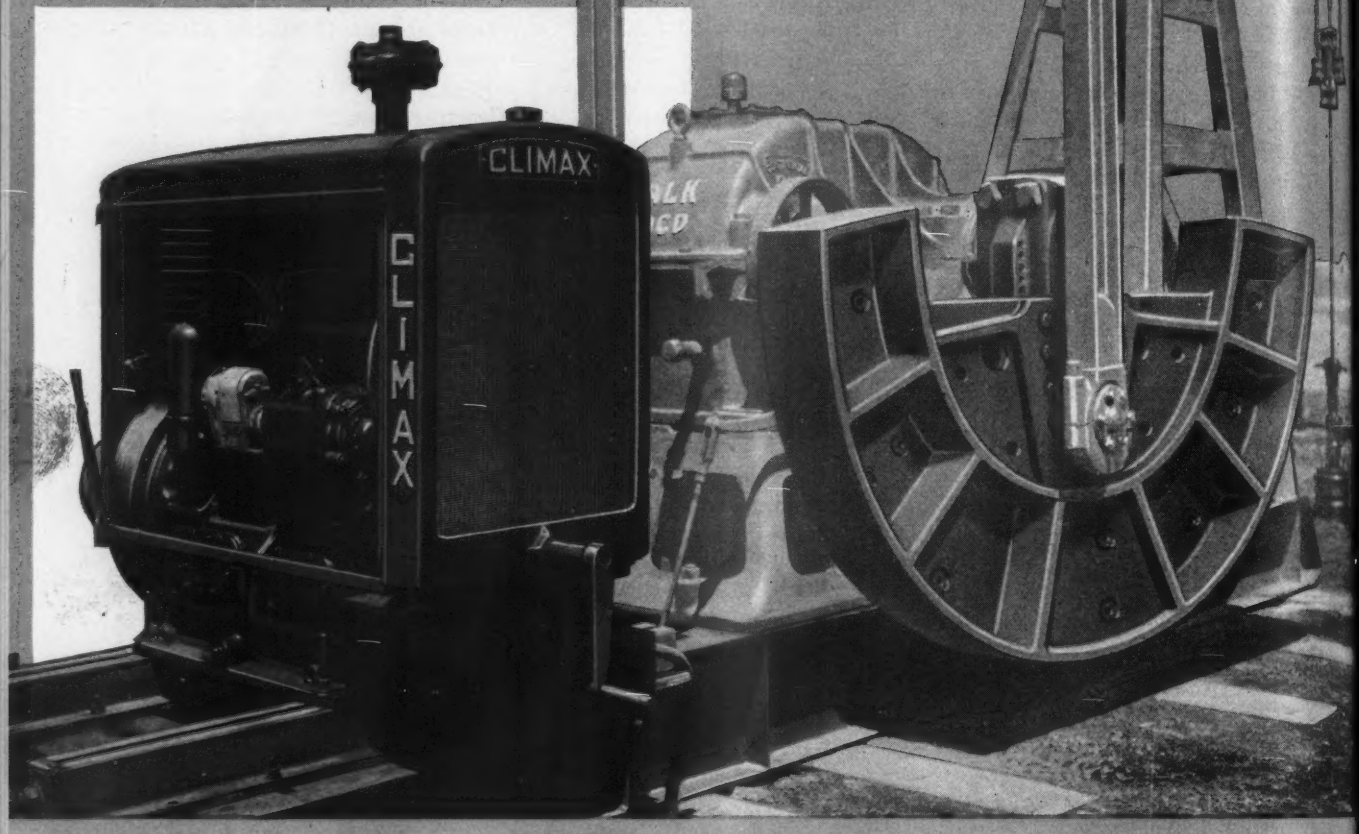
The dual tests of the Cantua area of Fresno county are continuing. In sec. 14-17s-15e Richfield Oil Corp. Cantua Co. No. 1 is spot coring and drilling near 4100 ft. with best advices being that nothing significant has been found thus far. Superior Oil Co.'s Cantua Land No. 54-36, on section 36 of the township, is steadily drilling near 8000 ft. No Eocene is reported yet and probably will not be for several hundred feet since nearest drilling to the current site placed the age at 8900 ft.

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
Fresno County					
Cantua Creek	Richfield Oil Corp., Cantua Co.	1	14, 17-15	3760	Drilling
	Superior Oil Co., Cantua-Land	54-36	36, 17-15	7860	Drilling
Jacalitos	Standard Oil Co., Well	61-35	35, 21-15	4415	Testing
Guijarral Hills	Standard Oil Co., Well	62-29F	29, 20-16	6569	Drilling
	R. S. Lytle, Well	88-20F	20, 20-16	5920	Drilling
Wheatville	Superior Oil Co., Kreyenhagen	81-22	22, 17-18		Rigging up
Kern County					
Antelope Hills	C.C.M.O. Co., Antelope Fee	12-1	12, 28-19	3105	Drilling
Belridge	Ernest F. Lang, Well	1	3, 28-20		Location
	Petromont Oil Corp.	P-B 1	25, 28-20		Rig
Bowerbank	The Texas Co., Bowerbank	16-C	6, 29-24	4950	Abandoned
Comanche Point	T. W. Burnham, Chiquita	2	34, 12-19	2030	Idle
Cymric	Los Nietos Co., Sheep Springs	1	20, 29-21	3134	Drilling
Dyer Creek	D. D. Dunlap, Dyer Creek	1	11, 26-27	2294	Idle
Elk Hills	Pac. West'n & G.F. Getty, McNeil	1	22, 30-24		Location
Kern River	O. H. Calhoun, Bridge	1	17, 28-28		Location
Midway-SE.	The Texas Co., P.U.P.	2	33, 11-23	10607	Abandoning
Mt. View	DiGiorgio Fruit Corp., Well	4	10, 31-29	3690	Drilling
Round Mt.	Harp & Brown, Olcese	1	17, 28-29		Rig
	Iseminger Bros., Well	1	2, 28-28	2113	Abandoned
	Signal Pet. Co. of Calif., Mills	1	24, 28-28		Rigging up
Strand	T.W.A.O. Co., KCL	76-8	8, 30-26	7915	Drilling
	T.W.A.O. Co., KCL	32-17	17, 30-26	8400	Abandoned
Kings County					
Hanford	The Texas Co., Souza	1	33, 17-22		Location
Tulare Lake	Shell Oil Co., Inc., T.S.G.	21-28	28, 22-20	10988	Drilling
Madera County					
Mendota	The Texas Co., Gill	38-16	16, 13-16	9154	Testing
Chowchilla	Pure Oil Co., Gamboni	1	28, 10-13		Foundation
San Luis Obispo County					
Midway, NW.	C.C.M.O. Co., Thomas	1	1, 31-21	8890	Drilling
Tulare County					
Pixley	Union-Cont. O. Co., Pacific States	76-25	25, 22-25	470	Drilling
Terra Bella	Northern Ordnance, Inc., Campbell	1	22, 22-27		Location

Get Quick-Acting Low Cost Power for

OIL WELL PUMPING



USE Climax Blue Streak ENGINES

These Climax Engines are especially designed for oil well pumping. They help keep oil flowing at low fuel cost, with negligible expense for engine repairs and maintenance.

SMOOTH RUNNING, UNIFORM SPEEDS . . . The extra heavy flywheels promote uniform speeds through the highs and lows of the pumping cycle. The kinetic energy produced makes it possible to start a well without "rocking" and maintain smooth effortless running. The engine is governed to obtain full effect from flywheel momentum, prevent "dragging" and eliminate surges.

CLOSE FUEL REGULATION PREVENTS FLOODING . . . The sensitive venturi type carburetor, equipped with pilot valve, provides close fuel regulation and prevents flooding.

SAFETY DEVICES HALT OVERHEATING, LOW OIL PRESSURE . . . Water te perature and oil pressure switches protect the engine fr damage due to overheating and low oil pressures.

EXTRA RIGID MOUNTING, REDUCED VIBRATION . . . The heavy cast iron b type base maintains rigidity and alignment, while providing a fi foundation which reduces engine vibration and absorbs stress Its large capacity makes possible lower oil temperatures, permi greater reclamation and reduces the frequency of oil chang

Distributed in the Mid-Continent Oil Field by

THE CONTINENTAL SUPPLY COMPANY

General Office: DALLAS, TEXAS

Climax Engineering Company

GENERAL OFFICES & FACTORY:

CLINTON, IOWA

REGIONAL OFFICE: DALLAS, TEXAS

Texaco Completes Madera Co. Gasser

The Texas Co. No. 38-16, on sec. 16-13s-16e, was plugged back and tested up hole from bottom at 9154 ft. to the final intervals of 4480-70, 4465-45 & 4425-4415 ft. and completed flowing 11,000,000 cu. ft. of gas through a 43/64 in. bean under pressures of 825/1725 lbs. The production is coming from Upper Eocene sands which demonstrated production on trial during drilling. The company is starting work on No. 14-16 at once.

"Y" Zone Well Now Completed

Belridge Oil Co. completed well No. 27-Y-27 in the North Belridge field at 8940 ft. from 120 ft of "Y" zone formation flowing 32 gravity oil on test at an estimated 200 bbl. rate with some 200,000 cu ft. of gas through a 16/64 in. bean under 300/1750 lbs. pressure. No. 11-Y-27 is drilling at 7420 ft. while rig is up for No. 29-Y-27.

Pure Oil Starts North Gas Test

The Pure Oil Co. poured foundation for Gamboni, et. al. No. 1 as test west of the Chowchilla field one location southeast of the center of sec. 28-10s-13e in Madera county.

Two Start In Tulare County

A joint test between Union Oil and Continental Oil Co. is under way as an overlap test on sec. 25-22s-25e of the Pixley area. The well, Pacific States No. 76-25, is currently reported in grass root stages near 500 ft. under the drilling direction of Union. The play is worked out on an acreage sharing basis.

In the Terra Bella area Northern Ordnance, Inc., a Minneapolis firm, let contract to Bender Drilling Co., which is preparing to spud Campbell No. 1 for the first of a series of shallow holes.

Greeley Well Completed

Standard Oil Co. finished KCL No. 11-36 as the first of three in the Greeley field. Turned to the tanks after bottoming at 11514 ft. the well initialed a 946 bbl. rate on an 8 hour test and was shut in under 1300/1270 lbs. The 38.3 gravity oil rate was obtained on 6 hour flow with a 16/64 in. casing bean and 2 hours through a 15/64 in. tubing bean. No. 11-37 is standing with 13 3/8 in casing cemented at 1518 ft. while No. 11-38 was last reported making hole at 1380 ft.

FOR SALE

At farm land prices, 120 acres Tulare county potential oil land. Advertiser Box, care California Oil World, 939 So. Broadway, Los Angeles, Calif. 4-5d

J. P. Butler

COLLECTIONS • CREDITS • ACCOUNTING

Select your collection and credit representative as carefully as you would your bank; both handle your money.

603 Rives Strong Bldg. VAndike 6149
112 W. 9th St., Los Angeles, Calif.

Administrative Highlights

(Continued from Page 14)

gress has been made by the Allocation Committee in the establishment of allocation factors by which the current intra-field and lease quotas shall be dependent upon the reservoir characteristics of such wells and leases and therefore be freed from any human or sympathetic influence so far as is possible. Notwithstanding such progress during the past fifteen months, there is much to be done to promote a satisfactory, workable system of allocation involving sound legal and engineering principles directed toward lease and well apportionment, having as its goal the prevention of physical waste within the pool, and still emerge with a simple intra-field allocation which can be made to work, imposing no undue hardship on any operator, with the aim that such formula shall prevent, in so far as is reasonably possible, drainage of oil and gas across property lines.

Just Say---

YES! You may send me the CALIFORNIA OIL WORLD for one year, for which I enclose $1.00.

For Foreign Countries, $2.00

Name .....

Address .....

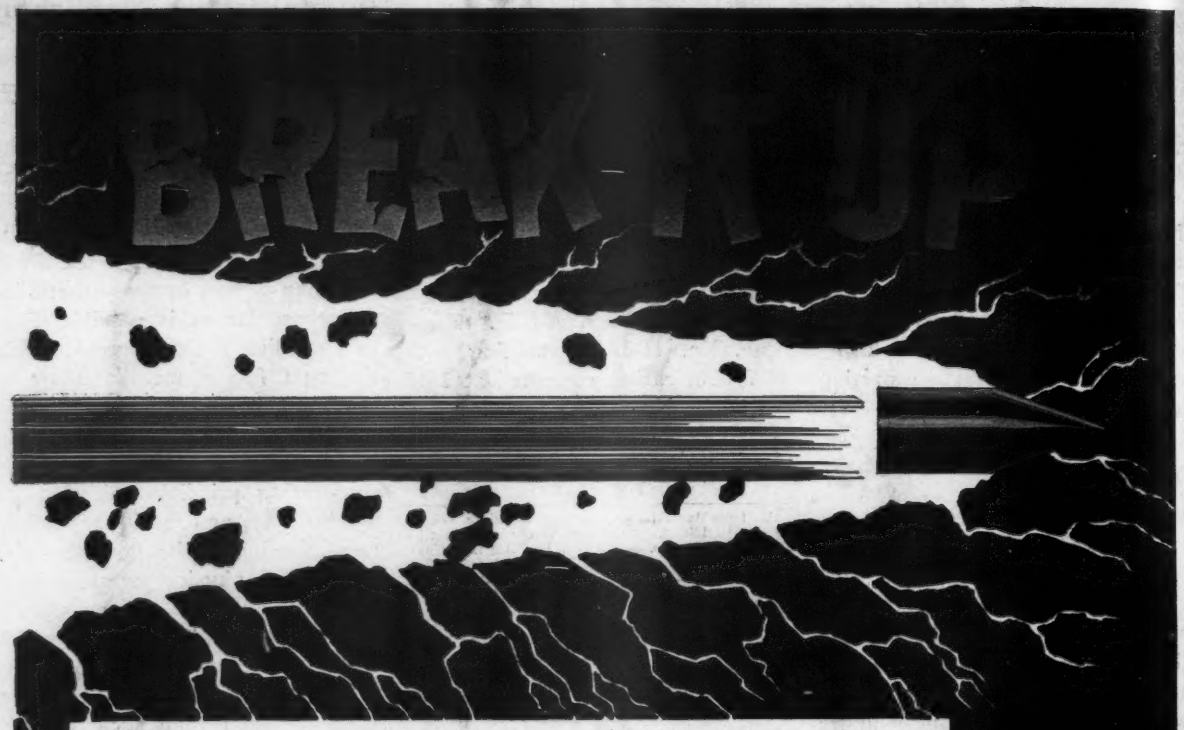
City ..... State .....

Position ..... Company .....

Check branch engaged in Producing..... Refining..... Natural Gasoline..... Marketing..... Manufacturing.....

Subscriptions accepted only from persons actively connected with the oil industry.

California Oil World, 939 S. Broadway, Los Angeles



FRACTURE HARD FORMATIONS BEFORE ACIDIZING WITH THAT GREATER PENETRATING, HARD SHOOTING

McCULLOUGH
GUN PERFORATOR

By using the maximum powder charge and scientifically confining the gases, McCullough Gun Perforators fire bullets with extremely high velocity. The high velocity bullets produce CLEAN HOLES in the casing, penetrate far into the formation, and effect maximum shattering of limestones. The multitude of cracks and fissures thus created enable acid to penetrate and work most effectively in opening up a network of channels through which oil can pass freely into the well. Before acidizing—call out that greater penetrating, hard-shooting McCullough Gun Perforator, anytime day or night.

Advantages of the EXACT S-P-A-C-I-N-G and GREATER PENETRATION of McCullough Gun Perforators on other important jobs! Accurate depth measurements—Positive location of Gun at desired shooting point—Proved safety to the well and men—Positive firing control—Operated by experienced Oil Men—Guns fired either electrically or mechanically—Gun sizes for every requirement from 2-inch tubing to largest size casing.

16 SERVICE LOCATIONS

HOUSTON, TEXAS · CORPUS CHRISTI, TEXAS · BOLMA, LA. · OKLAHOMA CITY, OKLA. · BAKERSFIELD, CALIF.
WICHITA FALLS, TEXAS · GEO. WEST, TEXAS · SHREVEPORT, LA. · SEMINOLE, OKLA. · VENTURA, CALIF.
VICTORIA, TEXAS · TYLER, TEXAS · LAKE CHARLES, LA. · CASPER, WYOMING · AVENAL, CALIF.

McCULLOUGH TOOL CO., 5820 SOUTH ALAMEDA ST., LOS ANGELES, CALIF.